A Clinical Lecture

ON

SOME OF THE COMMON INJURIES OF THE KNEE-JOINT AND THEIR CONSEQUENCES.

DELIVERED AT GUY'S HOSPITAL.

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IT would seem that the most common form of injury of the knee-joint is some damage to the internal semilunar fibro-cartilage. The semilunar cartilages form what one might call variable intermediaries between the tibia and femur, accommodating themselves to the altering mutual relationship of these articular surfaces to one another. They occupy a space that must necessarily be filled with some material, whether solid or liquid. If a cartilage is removed and there is no fluid present in the joint, a new growth of connective tissue spreads into the interval between the bones from the interior surface of the adjacent portion of the capsule. The function of the external fibro-cartilage is much more simple than that of the inner, since it is more circular and the fixation of the external tibio-femoral joint is much more secure than is that of the inner. The outer joint performs the function of a hinge up to a certain point, movement taking place on a transverse axis, while beyond that the movement between the bones is one of rotation on a vertical axis to permit of the further movement of the internal condyle around a transverse axis, and when complete the external femoro-tibial joint forms the fulcrum of a lever in a transverse plane. This movement of extension of the knee-joint is limited by the posterior ligament, by the anterior crucial ligament, and by both lateral ligaments, which are placed behind the transverse axis of rotation. This is particularly true of the internal lateral ligament, since it does not sustain a maximum strain till after the external lateral ligament, and consequently permits of a greater degree of relaxation also than the external. The fibro-cartilage is therefore evolved in order to fill what would otherwise be a varying vacuous cavity between the bones, and its extension into the joint is limited by the impact of the cartilaginous articular surfaces on one another. For this reason the firmer this bearing is and the more accurate the apposition of the articular surfaces the smaller is the area and bulk of the interarticular fibro-cartilages and their mobility is correspondingly less. Now the fit of a joint varies directly with the degree of development of the muscles which control that joint. In other words, the area of the articular surfaces which come into direct contact is great in the vigorous labourer, while it is small in the badly-nourished, inactive subject.

When the knee-joint is flexed the internal lateral ligament is relaxed and in a degree directly proportional to the flexion.

When also the foot is abducted the superjacent weight of the trunk is transmitted outside the centre of the joint, and there exists a tendency to the diminution of the external femoro-tibial angle and to the separation of the internal condyle of the femur from the corresponding aspect of the tibia, the external condylar joint forming the fulcrum around which movement takes place. This leads to an increase in the influence of the factors which are primarily responsible for the development of the internal interarticular fibro-cartilage and produces a tendency to the separation of the internal condylar surfaces and to the consequent displacement of this fibro-cartilage between the bones. The sudden removal of the superjacent pressure tending to reduce the external femoro-tibial angle permits of the articular surfaces regaining their normal relationship, and may result in the bruising of the inner portion of the inner fibro cartilaginous crescent, or even in its rupture from the internal lateral ligament and adjacent capsule should it not have had time to escape. This tendency to damage of the fibro-cartilage increases with the degree of flexion of the knee joint and diminishes as the knee approaches the position of extension. The more secure the fit of the joint the greater must be the amount of force necessary to damage the fibro-cartilage, while in a loosely fitting joint the amount of force required to produce the same injury may be very slight. Any bruising of the free margin of the articular crescent results in its swelling and possibly, later, in its destruction. The portion most liable to damage is the back part of the middle third. In proportion as a segment of the free margin of the cartilage is destroyed so its total length is increased, and also its mobility or liability to injury. This is shown by Figs. 1, 2, and 3 (p. 538).

In proportion as the leg approaches a position of extension the greater is the force requisite to produce any displacement and consequent damage of the fibro cartilage, and the more severe is the strain sustained by the internal lateral ligament of the joint. This latter strain is felt most at the point of attachment of the upper extremity of the internal ligament, where it is most limited. When the knee-joint is in a position of extreme extension abduction of the articulation must be sufficiently forcible to rupture the internal lateral ligament before any separation of the internal condyle from the tibia can be effected by it. Therefore, besides the damage to the fibro-cartilage, there may be a certain amount of laceration and consequent inflammation of the upper part of the internal lateral ligament, varying chiefly with the degree of extension of the knee-joint. When the interarticular fibro-cartilage is torn away from its attachment to the capsule and internal lateral ligament, and is displaced between the condyles, it is not possible to extend the joint completely, as the back part of the fibro-cartilage intervenes between the articular surfaces of the tibia and femur.

The symptoms of damage to the internal fibro-cartilage vary considerably. In the milder form of injury there may be merely pain and tenderness along the anterior two-thirds of its length which exists only when the knee is bent, but the pain may be absent when the knee is retained in a position of extension. In the more severe forms the fibro-cartilage is very swollen and tender on pressure, and may form a distinct protrusion along its length.

There may be a varying amount of synovial effusion, and when the cartilage is still compressed between the articular surfaces or displaced from its marginal attachment it is not possible to extend the joint completely. If the cartilage is displaced an endeavour should be made to restore it to its normal position by forcibly separating the opposing surfaces of the internal condyle and of the corresponding surface of the tibia by flexing the knee, and at the same time abducting it, using the external condylar joint as a fulcrum. Should the surgeon be unsuccessful in freeing the displaced cartilage from its abnormal position, the sooner it is removed by an incision into the joint the better, as there is always a difficulty in extending the knee completely after it has been kept flexed for any length of time.

Apart from this condition, I believe that the best treatment for a damaged fibro-cartilage is efficient massage and exercises, commenced as soon as possible after the injury has been sustained. As long as the fibro-cartilage is painful and swollen, the patient should retain the limb in a position of extension when he gets about, which must at first be very little.

It is very important that any synovial effusion should be removed, and the muscles about the joint restored to their normal bulk and function as soon as possible, since impaired function means liability to recurrence of the trouble.

The patient should be instructed to avoid the attitude of flexion of the knee and abduction of the foot in which the cartilage was injured. The inner margins of the feet should be kept parallel during locomotion and the universally accepted attitude of turning the feet out discarded. One may assume that anything that is universally accepted as true is certain to be false. Perhaps nothing is more generally taught and accepted than that in walking the feet should include an angle between them open forward; the mother, the schoolmistress, the schoolmaster, the dancing master, the drill sergeant, etc., all seem to conspire to preach this doctrine, which is obviously wrong and mechanically disadvantageous. If the individual wants to lace or button his boots, the foot should

be turned inwards or adducted and approached from internal to the knee. If the patient must kneel, he or she should do so on an adducted foot, and not on an abducted one. There are certain games—as tennis, golf, cricket, and football—in which the posture producing damage to the cartilage is constantly recurring. These games should be avoided in bad cases or the function of the knee-joint limited to a hinge movement by a suitable apparatus. Each succeeding squeeze tends to destroy an increasing quantity of the fibro-cartilage and so render it abnormally long and liable to injury. Later, after the cartilage has been completely divided, the anterior portion is sucked still further in between the bones, and is cut off from its attachment to the capsule. Finally it forms a tag which has only a small attachment to the tibia in front of its spine. This plays freely about in the joint, and may even be felt beneath the inner margin of the ligamentum patellae. When this stage is reached, its connexion with the internal fibro-cartilage may be readily missed, since a structure resembling the original fibrous wedge is then generally pretty well developed.

If the damage to the cartilage is repeated, the sooner it is removed the better. Surgeons differ as to the position and form of the incision necessary for its removal, some preferring a vertical, others a transverse, and others, again, a curved incision. Providing the fibro-cartilage is neatly removed, I do not think it matters much which incision is employed, but the accurate and efficient suturing of divided capsular structures and the early restoration of the functions of the joint are important factors in treatment. Synovial effusion can be readily controlled by elastic pressure.

In children especially, and in patients of all ages in whom there is a tendency to the development of tubercle, owing usually to a lowering of the resisting power to its entry consequent on autointoxication from intestinal stasis, or possibly from the influence of such an organism as the influenza bacillus, it is very important that the joint should recover its normal character as soon as possible, so that it may not form a culture medium for the bacillus of tubercle.

Some years ago[1] I called attention to the fact that the large majority of cases of tuberculous infection of the knee-joint originate in the local depreciation of vitality consequent on damage to the internal fibro-cartilage. I had then on very many occasions satisfied myself as to the accuracy of this conclusion, and always took it into consideration when asked to treat cases of injury of the cartilage occurring in subjects likely to develop tubercle or already possessing some tuberculous focus in any other portion of the body.

It does not follow that the tuberculous organism should of necessity first obtain a foothold in the inflamed fibro-cartilage or in the synovial membrane or tissues immediately in relation with it whose vitality have been lowered through their share in the inflammation; but the effusion in the knee-joint itself, and the general inflammation of the synovial membrane of the articulation, which is secondary to the local inflammation of the fibro-cartilage, may form the nidus in which these organisms can grow and thrive.

Therefore, contrary to the usual teaching, I concluded that tuberculous affection of the knee-joint was in adult life almost always consequent upon damage to the internal semilunar fibro-cartilage, and that in young life it frequently resulted from it either directly or indirectly. When the joint has become affected by tubercle the condition becomes one of great anxiety. In slight cases rest and tuberculin, with the most scrupulous attention to the gastro-intestinal drainage, are the most effective. The use of the tuberculin should be in the hands of an expert bacteriologist who is thoroughly familiar with the work. My experience of the treatment by tuberculin is that the failure is due in most cases to the practitioner and not to the principle. Believing as I do that tubercle rarely affects patients whose resisting power is not depreciated by intestinal autointoxication, I employ pure liquid paraffin as a vehicle to facilitate drainage, having completely discarded all drugs of a purgative character, and I have been most pleased with the result. Should the condition of the joint be such that it is not likely to improve under this treatment, I divide the ileum and put it directly into the rectum as low down as I can. I used to do it by means of a lateral anastomosis, as I believed it to be the most secure and safe method of establishing the junction, but now I invariably put it in direct into the side of the rectum. I do this as, however accurate the lateral anastomosis, there is always a tendency to pouching of the ileum beyond the junction sufficient in certain cases to require an operation for its removal. The use of a soft rubber tube passed up through the anus, lower part of the rectum, and through a length of the ileum, serves to drain the small bowel and reduce the risk of the operation enormously. I have practically quite discarded such operations as erasions and excisions of joints for tubercle, and obtain far better results in every way by dissociating their cesspool. Should any surgeon care to see the results in apparently hopeless joint cases of the operation of short-circuiting the bowel I shall be very pleased to furnish him with the names and addresses of these patients. In these cases the rectum is generally very elongated and easy to deal with.

The other injuries about the knee-joint are rare as compared with those which I have described. They consist of bruising of a synovial fringe, or the removal of a portion of the articular cartilage with or without a part of the surface of the subjacent bone. The fringe of synovial membrane may be damaged by being squeezed or nipped between the articular surfaces or by a blow upon the knee. The symptoms may resemble very closely those of damage to the semilunar fibro-cartilage, and if the joint be explored during a period of quiescence it may be impossible to differentiate between these conditions. It is only by a careful study of the symptoms that any conclusion can be arrived at before operation. If the joint is opened during the acute stage the swollen and inflamed fringe can be readily recognized and dealt with. I have seen several cases of this condition in which the internal fibro-cartilage has been removed without affording the patient

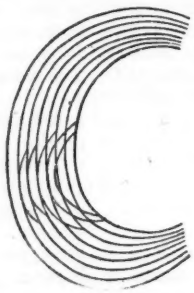

Fig. 1 represents diagrammatically the upper surface of the right internal semilunar cartilage. In it I have attempted to represent as lines running along its length the resistances offered to its elongation, and consequently to its relaxation and outward displacement, and in smaller concentric crescents the manner in which these resistances are progressively obliterated when the cartilage is nipped between the bones and severely bruised and destroyed. The force opposing the excessive suction of the fibro cartilage between the bones is the resistance offered by the capsule and internal ligament and the structures uniting the fibro-cartilage to them.

Fig. 2 represents a right internal fibro-cartilage which has been completely divided. Its posterior third retains its normal attachment, while the remains of its anterior two-thirds are shown as a tag attached by its extremity only to the tibia.

Fig. 3 represents the appearance presented by the right internal semilunar fibro-cartilage, whose anterior two-thirds have been separated from the capsule of the joint, and been displaced outwards beneath the internal condyle. The anterior extremity still retains its attachment to the tibia.

any relief, which at once followed the removal of the bulky ligamentae alaria. Practically most, if not all, cases of this sort which have come under my observation have been regarded as damaged or displaced semilunar fibro-cartilages, and have been treated more or less actively. It is a mistake one is very liable to make. A portion of the articular cartilage may be removed from the joint in two different ways. One is by direct impact as in a fall upon the knee. In these cases a triangular piece of articular cartilage breaks off the subjacent bone and separates from the adjacent articular cartilage by a vertical fracture.

In flexion of the knee beyond a right angle there exist two considerable areas of the articular surfaces of the condyles of the femur below the patella and on either side of the ligament, which are covered merely by skin and by the capsule of the joint. In the position of kneeling with the knees separated by a moderate interval, the portion of the under surface of the internal condyle comes into immediate relationship with the ground. When kneeling on one knee the under surface of the external condyle comes into contact with the ground. In falling on one knee the same portion of the articular surface of the external condyle sustains much of the impact. If the force of the blow sustained is sufficiently great a portion of the articular cartilage is fractured and is displaced from its connexion with the femur. It moves about in the

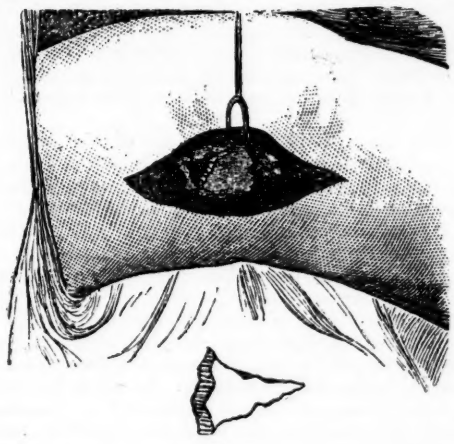

Fig. 4.

joint and forms a loose body. If left for some time the sharp cut edges, both of the loose piece and the depression left by its removal, are gradually rubbed down, and I believe that after a time the loose body may be completely absorbed, and the place from which it escaped may be represented only by a slight concavity in the articular surface. I can best illustrate this by a case which I published in the BRITISH MEDICAL JOURNAL, December 2nd, 1893, page 1207:

E. P., aged 25, had a loose body in each knee-joint. The right knee-joint was opened, when a piece of articular cartilage (as illustrated in Fig. 4) was removed. It had evidently been very recently broken, since its edges were sharp and clearly defined. In the outer part of the under surface of the external condyle there was an area in this articular cartilage into which the separated piece fitted accurately. On opening the left knee-joint a piece of articular cartilage of about the same size was removed. This piece was completely altered in character, its edges being smoothed down like a flat stone in a brook. On the same area of external condyle as in the right knee a smooth depression in the articular cartilage was observed. Its edges were smoothed down, and its floor was covered with articular cartilage. In neither case was there any bone attached to the cartilage.

I have not invariably removed the piece of loose cartilage from the knee-joint when I felt that it was disappearing pretty rapidly and when it appeared to be doing very little or perhaps no harm. That these pieces of cartilage may absorb completely I have no doubt. If, however, they give trouble they can be readily removed if they can be felt. At the same time I have known of several cases in which a joint has been opened and the small movable foreign body has eluded the surgeon.

There is another group of cases showing similar symptoms, in which the loose body can be shown by the *x* rays if the rays are transmitted through its breadth, for the reason that there is a thin scale of bone attached to the under surface of the articular plaque. The cartilaginous fragment differs in shape from that previously described, since it is not triangular but broadly square with thin edges.

In these there is never a history of impact on the knee, but a definite one of a twist or strain of the knee-joint. The fragment is generally found in the upper and outer part of the knee-joint. It presents all the appearances of being pressed off the bone, a portion of which frequently appears to come away with it.

Unfortunately, in the few cases on which I have operated for removal of the fragment an incision was made directly over it above and outside the patella, and I did not feel justified in enlarging the incision and exploring the knee-joint more thoroughly merely to determine the seat of damage in the femur or tibia. They all experienced pain or tenderness when pressure was made on the inner portion of the articular surface of the internal condyle where it articulates with the patella.

REFERENCE.

[1] The Surgery of the Internal Semilunar Fibro-cartilage, *Clinical Journal*, June 6th, 1900.

A Lecture

ON

INJURIES OF THE LOWER END OF THE HUMERUS.

DELIVERED AT GUY'S HOSPITAL.

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GENTLEMEN,—The study of injuries of the lower end of the humerus is naturally divisible into two classes: one which comprises injuries occurring in childhood before the lower epiphysis of the humerus is united to the diaphysis; and the other, including fractures in adults, of the lower end of the diaphysis—the common type of supracondylic fracture. This distinction is in reality largely an artificial one, for, as I shall attempt to show, a simple separation in children of the lower humeral epiphysis uncomplicated by any fracture is very rarely met with; in fact, the common injury to the lower end of the humerus in childhood is in many features similar to that of adult life. A true understanding of the injuries likely to affect the lower end of the humerus in childhood depends on an accurate knowledge of its ossification, and, as the diagrams in most anatomy books have been, until recently, inaccurate in respect to the relative amount which is formed by the lower epiphysis, I shall spend a few minutes talking about its development. My first diagram shows the lower end of the humerus entirely cartilaginous during the first year after birth, and the second diagram shows that certainly up to the fourth, and often well into the fifth, year of life the lower epiphysis consists of one cartilaginous mass, encircling a gradually increasing ossific nodule, known as the centre for the capitellum which may be seen during the second year.

In the next figure we come to the point on which former descriptions were inaccurate, for in them we were told that the whole lower end of the humerus is formed from the lower epiphysial centres; whereas we know recently, partly from anatomical work and partly from Poland's pathological researches upon the lower epiphysis of the humerus, that the diaphysial centre, beginning to grow in the eighth week of fetal life and forming the whole of the shaft, gives a downgrowth, which forms anteriorly and posteriorly a considerable finger-like process of bone, separating the internal epicondyle from the rest of the lower epiphysis. This hypophysis begins to extend towards the lower border soon after the fourth year, and definitely forms the lower non-articular margin just internal to the trochlea in the thirteenth year; so that after the thirteenth year a simple separation of the total lower epiphysis of the humerus is impossible, for any injury which dissolves the continuity of the bone at the level of the epiphysial line

must, in truth, entail a fracture of this downgrowth of the diaphysis; and what is true absolutely after 13 years of age is certainly in a sense true after 4 years, for the diaphysial downgrowth has already begun, and has interrupted the regularity of the epiphysial line as seen at birth. In exact agreement with these facts we find that in the early years separation of the total lower extremity of the humerus is quite common, whereas after the fourth year it is comparatively rare.

Ossification takes place in the lower end of the humerus by four centres, the first of which appears between the second and third year in the capitellum; and it not only forms the articular surface for the head of the radius, but spreads inwards, forming a large part of the trochlea as it almost reaches to the antero-posterior groove which divides the trochlea into two halves. In the fifth year an ossific granule appears in the internal epicondyle; about the eleventh year or twelfth year the centre in the inner part of the trochlea appears to form two-thirds or less of the trochlear articulation, and finally, in the thirteenth year a nucleus is seen which forms the external epicondyle. These diagrams indicate that the lower epiphysial line skirts the articular margin of the lower extremity so that the whole of the surface which forms in front the coronoid fossa and behind the olecranon fossa is formed from the diaphysis. And here I should mention that whereas this lower cartilaginous mass of the humerus in newly-born infants is relatively deep, in the later years of childhood it is relatively shallow: that is to say, the diaphysis appears to grow more down into the region of the articular surface in childhood than in infancy. At about 16 years of age the three outer centres which since 13 have formed one mass—the true epiphysis of the lower end of the humerus—fuse with the shaft; and at the eighteenth year the internal epicondyle joins with the shaft separately, being separated from the lower epiphysis by the downgrowth of the diaphysis, which I mentioned before. One may suppose that this diaphysial downgrowth exercises a natural beneficial function, acting as a splint or support, for the protection of the ulnar nerve, which passes round the bone and lies posterior to it at this point.

You will see that in general direction this epiphysial line traced on the front of the bone passes from within outwards and downwards, and as it reaches the external epicondyle it passes upwards again: similarly, at the back it skirts the upper margin of the articular cartilaginous surface, and my diagram will draw your attention to the fact that this epiphysial line is distinctly within the synovial membrane of the elbow joint, and is supported and strengthened by the attachment of the capsular ligaments, which pass upwards well over the coronoid fossa anteriorly and downwards below it on the inner margin of the trochlea. Here is a diagram which shows the epiphysial line—the junction of the blue cartilaginous mass with the shaft—crossed both by the reflection of the synovial membrane from the diaphysis, where it is lining the olecranon and coronoid fossae, and by the attachment of the capsule where it is passing down on either side to skirt the articular margin. The lower epiphysis obtains, in addition to the usual periosteal bond, support from the attachment of the comparatively feeble synovial membrane and of the comparatively strong capsule of the elbow joint; for, though in the dissecting-room we do not regard the capsule of the elbow-joint as a very strong structure, yet in childhood it is the chief support the epiphysial line obtains. The relation of the synovial membrane to the lower epiphysial line affords it some slight protection also, and quite apart from this the relation of the parts I have mentioned is of the first importance, because, firstly, disease of the juxta-epiphysial line will readily spread to the joint—a subject in which we have no interest to-day, though in connexion with disease of the joints, such as tubercle, it should always be in your mind; and, again, in any case of injury to the epiphysial line the synovial membrane is almost certainly lacerated, and both haemorrhage into the joint and secondary synovial effusion are not only important difficulties in accurate diagnosis, because the swelling interferes with the careful manipulation of the fractured extremity, but also subsequent organization of this effusion may ultimately interfere with the free mobility of the injured joint.

I will try to put before you shortly some of the facts in connexion with the various injuries of this epiphysis, and much of what I shall say is gathered from a very full account of the results of traumatism on the lower extremity of the humerus in Mr. Poland's *Injuries of the Epiphyses*. These injuries may be described under five headings. I have referred already to the first one, which is separation of the whole lower end of the humerus. This is common under four years of age, and is not possible after the internal epicondyle becomes cut off from the main epiphysis by the downgrowth of the diaphysis about puberty. Then there is a separation of the true lower epiphysis, consisting of the external epicondyle, capitellum, and trochlea; this is comparatively common about puberty, though it is considerably more rare than the injury I mentioned first—a total separation of the lower end of the humerus. The next variety is a separation of the internal epicondyle and the trochlea with it; and this also is only possible before the internal epicondyle is separated from the trochlea, and is therefore only met with under 4 years of age. In my fourth subdivision the outer epicondyle and the capitellum are detached together. In either of the last two varieties you will readily gather what deformity is likely to result, because in the case of separation of the internal epicondyle and the trochlea it is clear that if these portions of bone are driven upwards and shortened the natural carrying angle of the elbow, which normally forms an angle outwards of 170°, is diminished, so that cubitus varus, or a straight position of the elbow, results. Exactly the reverse is true after injury of the external epicondyle and capitellum, the natural carrying angle is increased, and cubitus valgus is the result.

In a fifth class come a separation of the internal or external epicondylic epiphysis, which is not uncommon. Of these, the separation of the internal epicondyle is the only one which I think is, in the hour at our disposal, worth a few words, because the internal epicondyle, from its relation to the ulnar nerve, either from injury or the subsequent formation of callus, may interfere with the function of that nerve.

The sixth variety is a very common fracture in childhood, and I have many *x*-ray pictures showing it here; it is the separation of the trochlea with a fracture passing up through the internal epicondyle. Looking, for instance, at this *x*-ray plate, we see a vertical line of separation passing upwards between the capitellum and the trochlea, it then passes inwards along the epiphysial line for some distance, nearly to the inner margin of the trochlea, when it ascends to reach the inner border of the humeral shaft. Mr. Shenton tells me that this is one of the very commonest injuries which he meets with in the surgical *x*-ray department. In teaching us the exact anatomy of this, as of so many other bone injuries, *x* rays have considerably corrected the former ideas of the nature of such injuries about the joints, where exact diagnosis is difficult solely from physical signs: I speak particularly of conditions which are not fatal, and after which, therefore, it is difficult to collect pathological evidence as to their causation, nature, and frequency.

My last variety of injury, which is also common in adults, is supracondylic fracture—a fracture passing straight across the shaft of the bone in its weakest part, because here it is thin antero-posteriorly. Here is a good example of an *x*-ray picture of this injury, which is complicated by a vertical fracture passing through the trochlea into the elbow joint, so that the internal epicondyle is drawn inwards and the external epicondyle outwards (see Fig. 5). Of all the varieties that I have mentioned, I think the supracondylic fracture, both in childhood and adult life, and the sixth variety—namely, a fracture passing upwards through the inner epicondyle with a partial separation of the trochlear epiphysis—are the most common; and there are numerous modifications of both of these. What I have recently had impressed on my mind by the writings of Mr. Shenton and others, and by looking through a large number of *x*-ray photographs taken in the last ten years, is that true separation of the lower epiphysis of the humerus is relatively uncommon, and that in some portion of its course the line of diastasis of continuity of the bone passes through the bony diaphysis, and therefore is partially a real fracture.

The physical signs which exist when the epiphysial line is injured are, first, deformity, and this commonly is as is seen in this *x*-ray plate, in which the lower end of the diaphysis is carried forwards, and the epiphysis lies behind (see Figs. 1 and 2). So we see the lower end of the diaphysis projecting into the antecubital space, and this no doubt partially compresses all structures which lie in front of it, and that it does not frequently injure the brachial vessels is probably due to the rounded form of the lower end of the diaphysis when the diastasis is entirely through the epiphysial line. If the epiphysis includes the epicondyles, the attachment of the flexor and extensor tendons are seen on either side, but this epiphysis is one to which no muscular or tendinous structure is attached which is of any value in acting as a tractor to help you to reduce the displacement. As a result of this displacement, a depression is seen posteriorly immediately above the olecranon, and again, because of the projection of the lower end of the shaft forwards, the biceps is put on the stretch and the triceps is more or less relaxed. The action of these muscles determines the position of the patient's arm, which usually at the time it is examined is one of semi-flexion. The last point I have to mention about the deformity is that it is very like that of dislocation of the elbow-joint, in which both the bones of the forearm are driven backwards. Should the case be seen within a few hours of the injury there will be no swelling; but very rapidly considerable swelling ensues, due not only to superficial bruising but also to exudation of blood and synovial fluid into the elbow-joint; and in many cases this renders accurate diagnosis impossible. The deformity is characteristic in that if it is reduced it tends to recur, and this is one point which distinguishes this injury from dislocation.

Under an anaesthetic, or without, it may be possible to obtain a sensation of muffled crepitus—a smooth crepitus compared with the rough grating of a fracture. I do not lay stress on this muffled crepitus, because if it is unwise in the case of a fracture to complicate the injury to soft parts by rubbing together two surfaces of bone to satisfy diagnostic curiosity, it must be even more so in the case of the delicate epiphysial line of a child. Undue mobility of the arm at the level of the epiphysial line is a sign of much greater value; the upper arm will be shortened as measured from the olecranon to either of the epicondyles. This is not a sign of much value, because one knows how difficult it is to measure the arm accurately under any conditions, owing to a want of definition about the upper and lower bony points, and if there is much swelling about the elbow this difficulty will naturally be increased; the movements of the elbow will in nearly all cases be limited, because of the effusion into the joint, but they are never so limited as in a case of dislocation.

I have already referred to supracondylic fracture, which produces exactly the same deformity, and gives the same physical signs as separation of the lower humeral epiphysis, except that the lower end of the upper fragment, as the fracture takes place higher up the shaft, does not come so far down into the flexure of the elbow, and distinct evidences of bony crepitus are obtainable in the child or in the adult. If a supracondylic fracture in children or adults is produced by hyperextension of the elbow, the lower fragment is driven backwards, and therefore lies behind the lower end of the shaft; whereas if the injury is due to hyperflexion, the reverse is true, and the lower fragment lies in front of the lower end of the upper larger fragment.

COMPLICATIONS.

When Mr. Poland's book first appeared, several years ago, I wrote a review of it, and in looking it through for this purpose I remember being much struck by the frequency with which separations of all epiphyses were compound, and by the frequency with which a simple separation of the epiphysis was likely to end in suppuration. But apart from the question of the incidence of sepsis and the consequent complication of the issue, there is one local complication which is fairly common—injury of the brachial artery. Mr. Wright, now a well-known surgeon in Manchester, when he was a Surgical Registrar here in 1879, wrote a paper in the *Guy's Hospital Reports* on this question, recording a case of Mr. Bryant's in which, eleven days after the separation of the lower epiphysis of the humerus in a child, the radial pulse was lost: this was no doubt due to injury to and subsequent blockage of the brachial artery. Mr. Poland, in commenting on this case, suggests that it might have been caused by an ill-fitting splint, though I do not find any inference in Wright's paper to support this view. There are several other cases of a similar complication scattered about in the literature on this subject. It is natural that an occasional associated injury to the soft tissues over the front of the elbow is likely to result in the very distressing contraction of the flexors of the hand which is well known as Volkmann's ischaemic paralysis, and is due to a fibrous degeneration of the flexor muscles of the forearm. Whether it results from primary inflammation of muscles, or is secondary to injury of the nerves, or injury of the blood vessels, is not at present decided. Opinions on the matter seem to be divided.

The only other complication which is common is an injury to one of the adjacent nerves, commonly the musculo-spiral, resulting in a dropped wrist. When the internal epicondyle was involved, injury to the ulnar nerve, as evinced by loss of sensation or "pins and needles" in the little finger, with atrophy of the muscles of the hypothenar eminence, has been noticed in a few cases.

In connexion with the differential diagnosis there are certain anatomical points to be borne in mind. (1) Under normal conditions of the elbow a line drawn through the two epicondyles passes above the olecranon. If the olecranon be pushed backwards, as in dislocation, its relationship to the line drawn across between the epicondyles will be altered from the normal. If the total lower end of the humerus be separated, the relationship of the epicondyles to the olecranon will be unaltered, and therefore the line drawn across the epicondyles will still be above the olecranon. (2) Another line which I should have thought of distinct clinical value, but which seems to have escaped general notice, is that which Wright (loc. cit. supra) described. He says a line drawn from the internal epicondyle through the tip of the olecranon, over the back of the elbow-joint, passes through the head of the radius in any position of the elbow-joint. Clearly, if any one of these three bony points is altered in its relation to the others, this line would show it.

The diagnosis of injury to the lower humeral epiphysis will be in the first place from dislocation of the humerus forwards at the elbow-joint, and I think that in dislocation the absence of crepitus, and the fact that deformity does not tend to recur if it is reduced, will usually differentiate the two injuries. Again, in the common dislocation of the elbow-joint, the lower extremity of the humerus will project much further downwards—well below the level of the elbow-joint—than in separation of the epiphysis, where the lower end of the diaphysis generally reaches just to the level of the antecubital crease.

It is not so important to diagnose a separated humeral epiphysis from supracondylic fracture, because having decided that there is loss of continuity at some point on the lower end of the humerus you will treat it on active lines. Muffled crepitus and the greater width of the lower end of the upper fragment are in favour of separated epiphysis, and undue mobility at a level well above that of the elbow suggests supracondylic fracture. With regard to prognosis, Poland is of opinion that here, as in all separations of the epiphyses, complete and rapid union usually occurs, and this, while being an advantage in some respects, is in others a disadvantage, because if you neglect to make an accurate diagnosis during the three or four weeks in which the swelling is subsiding, you will have by that time a fair amount of union in a bad position. Radiography now plays an important part in the diagnosis and prognosis of these injuries, and recognition of the exact position of the fragments immediately after the injury is only possible by this means. This photograph (Fig. 1) shows a fracture through the lower end of the humerus in a child, in which apparently the position was fairly good. When *x* rayed, the lower end of the diaphysis was seen to be considerably in front of the lower fragment, and even putting it up with the elbow fully flexed at an acute

angle did not accurately correct the deformity. (See Fig. 2.) I operated on the patient in June, 1909, and levered the lower epiphysis forwards into its normal relation with the shaft, and when replaced it remained in good position without any mechanical assistance. You see (Fig. 3) that some weeks afterwards there is apparently complete alignment between the lower epiphysis and the shaft. In one respect this last photograph gives a fallacious idea of the result, because it looks perfect, but the range of movement at the elbow, though smooth and free from extreme flexion to about an angle of 150°, is limited beyond this point and the joint cannot be fully extended: this is no doubt due to the formation of external callus in the olecranon fossa. On the whole the result is satisfactory, for it is probable that there will be considerable reabsorption of the callus in the fossa under normal movements of the forearm.

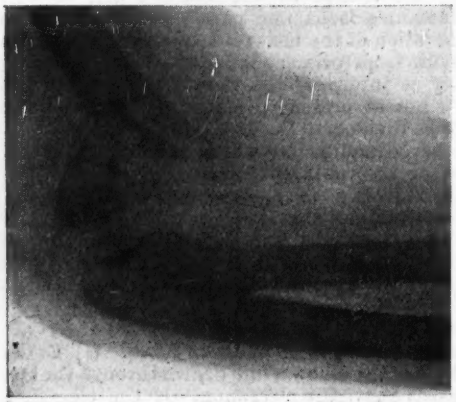

Fig. 1.—Fracture of lower end of humerus, showing position of fragments immediately after accident.

Such impairment in mobility, both in flexion and in extension, is very common; it will have resulted from callus formation in several of the cases, of which you have seen *x*-ray plates on the screen to-day. And, again, considerable deformity of the elbow is quite common, though not uncommonly associated with very good movement. Here is an *x*-ray photo of the elbow of a boy who came to my out-patient department with considerable cubitus varus. Instead of the forearm forming with the arm an angle open outwards, the forearm passes downwards and inwards, so that there was bowing, or an angle inwards, at the elbow-joint: here there was considerable deformity, yet movements were perfect. The usual causes of impairment of movement are non-reduction of displaced epiphyses, the resulting callus filling up the adjacent fossae either in front or behind, and injury to the ulnar nerve owing to its implication in the callus around the joint.

The last evil result of these injuries which we have to consider is arrest of growth, and fortunately in this particular position it is not important. This epiphysis is probably second to that of the lower end of the femur in frequency of being injured, but the results of these two injuries are in marked contrast in their effects on arrest of growth, for the lower end of the femur has a far greater influence on the length of the limb. The practitioner should warn patients that, after an injury near a joint in a child, arrest of growth of the epiphysis is at least probable. There are few conditions not of vital importance in regard to which practitioners so frequently seek a second opinion, because they do not like to take the entire responsibility of treatment; and I cannot do better than impress upon you the words of Velpeau, who said that "one of the worst things which could happen to a young surgeon beginning practice is to meet with a case of injury of the elbow in a child," because of the prospect of some permanent deformity or limitation of movement.

With regard to treatment, there seem to be three camps of those who advise fixation in splints. Poland, who has had an unrivalled experience of these injuries in England, recommends a right angle splint Bardenheuer recommended fixation in a position of full extension, while American surgeons are generally unanimous in believing that the only way to prevent some abnormality of the carrying angle of the elbow which could result in cubitus valgus or varus, is to treat the condition in the extended position; on the other hand, Hutchinson's observations on the lower epiphysis of the femur and of the humerus have in recent years led English surgeons to treat these injuries near the elbow in the completely flexed position. There is no doubt in my mind that if a separated lower humeral epiphysis of a child is put in a position of complete flexion with the hand supinated, possibly using no splint but strapping the forearm to the arm and bandaging them over the front of the chest, the deformity will usually be reduced, but I form my opinion from a comparatively small personal experience of the treatment of this injury in this way, and I must own that I have seen one or two cases which have been treated by right-angle splints, in which alterations in the carrying angle of the elbow have occurred; and I can therefore realize, as regards its influence on the carrying angle at the elbow, that the American criticism of treatment by complete flexion is probably justified. Then remember that union occurs rapidly, and delayed union is very uncommon, so that after three or four weeks supporting apparatus may be entirely omitted. Massage should be begun on the fourth or fifth day, and gentle passive movements at the end of two weeks. These latter are one of the best means of preventing a certain amount of immobility of the joint; but, as Mr. Robert Jones has pointed out, if they are instituted before firm union has occurred, disturbance of union results: external callus is thrown out, and the effect they were designed to annul is increased by them.

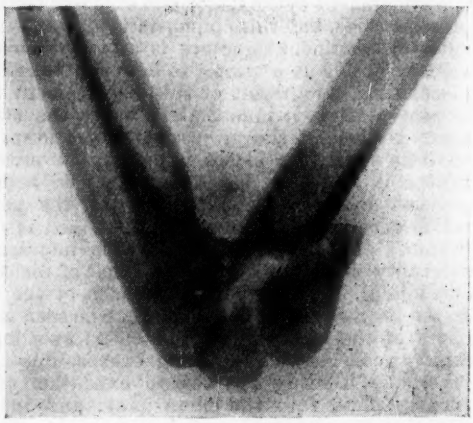

Fig. 2.—Fragments not in apposition, even in full flexion of elbow, with hand supinated under an anaesthetic.

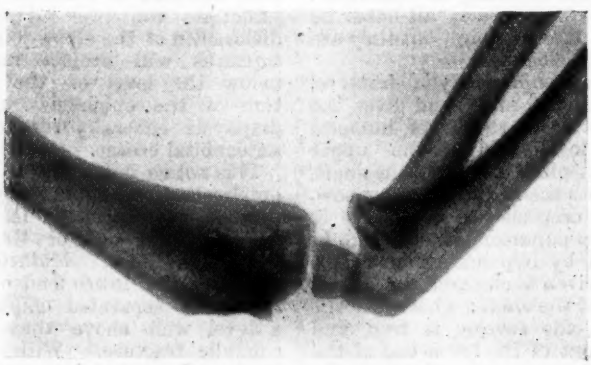

Fig. 3.—Ultimate result; union in good position.

It is natural I should say something about the treatment of these injuries by operation. If any operation is to produce its best results, it must be carried out within a fortnight or, at most, three weeks of the accident. This puts on the general practitioner the serious duty of deciding whether he has got the fragments into such apposition that a reasonable functional result is likely to ensue, and of course considerable help in coming to a decision on the question

of the apposition of the fragments is given by the *x*-ray picture. I have here an interesting series of *x*-ray photographs of a case of fracture of the lower end of the humerus, in a man of 42 years, who fell off his bicycle on April 3rd, 1910 (see Figs. 4, 5, 6, 7): you will see that

Fig. 4.—Lateral view before operation.

both condyles are driven apart, and the shaft comes down between and behind them. His medical attendant, Dr. G. B. Batten, of Lordship Lane, a very keen and expert radiographer, at once applied himself to the *x* rays,

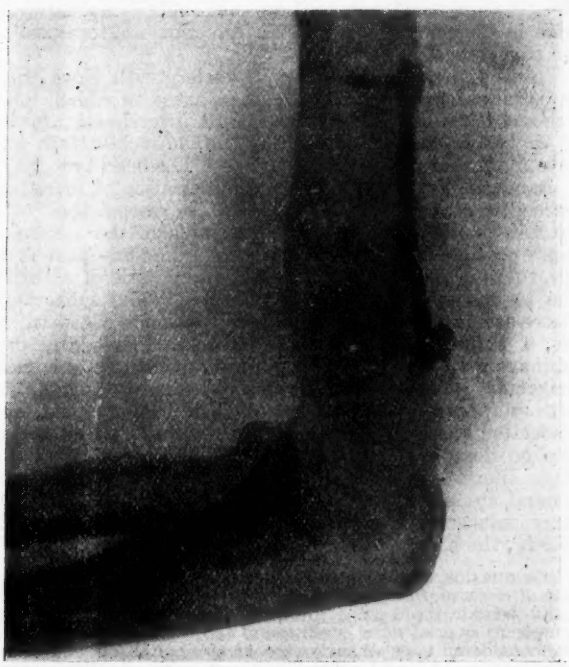

Fig. 6.—Lateral view after operation.

and finding it impossible to rectify the displacement by manipulation under an anaesthetic, operation was decided upon and was carried out on April 7th in spite of a superficial wound on the back of the elbow joint. Good restoration of the normal alignment of the bone was effected by means of one of Mr. Lane's plates, and the patient has regained a very considerable range of movement of the elbow.

In the case of the child's elbow which I put in front of the screen you noticed there was no wire, plate, or other opaque substance (see Fig. 3). In operating upon children or adolescents it is unwise to put a screw or wire into the

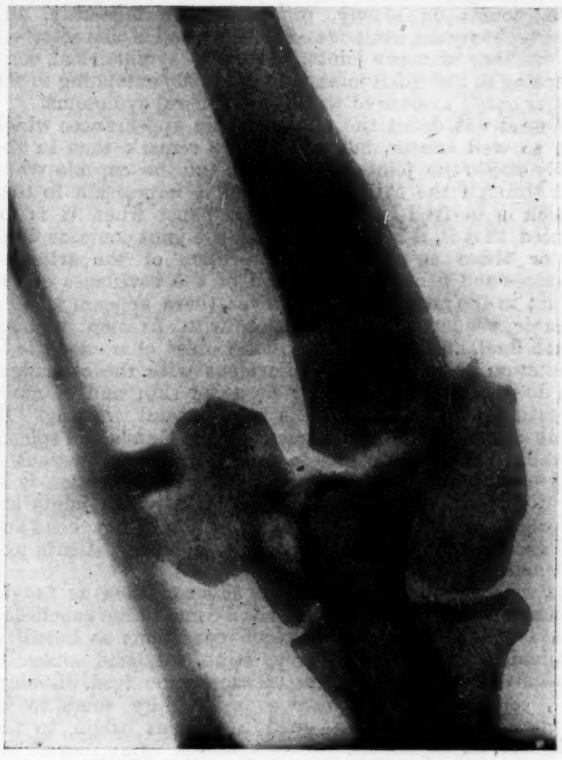

Fig. 5.—Antero-posterior view before operation.

lower growing end of the bone, because such a substance tends to determine a local arrest of growth.

The specimens from the Museum on the table show that in former years the operative treatment of these injuries near the elbow-joint, either because of the incidence of suppuration or because of im

Fig. 7.—Antero-posterior view some weeks after operation obscured by callus.

paired mobility of the joint, was limited to excision. Excision of the lower end of the humerus for an unreplaced fracture or separation of the lower epiphysis at the present time is really the result of an error of judgement as to the suitability of the case for operation in the week following the accident.

RHEUMATOID ARTHRITIS.*

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By rheumatoid arthritis I mean the condition which, as a rule, comes on slowly, progresses intermittently, and affects chiefly the adult or middle-aged, and is characterized by swelling of many joints, frequently symmetrical, commencing in the small joints and gradually extending to the larger ones; associated with it are general symptoms.

I need not detail the characteristic appearances which are so well known, but will simply remark that in the early stages the joints are swollen, and the capsule when felt through the skin gives a similar impression to that which is derived from parchment paper when it is indented, that is, it is thickened and the joint contains fluid. Later there is apparently absorption of the articular surfaces and general destruction of the cartilages of the joint; in the larger joints, however, there appears to be a greater tendency to destruction with fixation without much fluid, and in these cases the chief characteristic is limitation of movement. Coincident with these changes we find atrophy of muscular tissue, of skin and of nails, sweating at the distal parts and general wasting. In some cases there is enlargement of the glands and spleen. Finally, the disease ceases to progress, and the patient is left partially or completely crippled. This affection is to be distinguished from osteo-arthritis, in which joints are affected progressively with the deposition of new bone and calcified tissue; it arises, as a rule, in older patients and frequently at the site of an injury.

If we remember the etiology of this condition as taught when we were students, we shall come to the conclusion that it was very indefinite. Such conditions as heredity, hygienic surroundings, worry, damp, localized anaemia, malnutrition, excessive use of saccharine food, dissolute life, venereal disease, were considered by some to be causes, while others assigned a nervous origin to the affection, basing their arguments on the symmetry of the distribution, similarity of the lesions to those occurring in locomotor ataxy, syringomyelia, etc., and on the atrophic conditions associated with those diseases, and on the importance of mental exhaustion, shock, etc. Following these came the theory of the infective origin of the disease, supported by the fact that micro-organisms had been found in the tissues, that an acute onset occurred in a small proportion of cases, that it occasionally followed an acute affection, and that in some cases the spleen and lymphatic glands were enlarged.

If we turn to the treatment recommended in those times, we generally find that this is headed by the statement that rheumatoid arthritis is incurable, but that sometimes the progress is arrested. The treatment consisted in attention to the digestion, and placing the patient in the best hygienic surroundings. Prolonged treatment at watering places, consisting, as a rule, in baths, massage, and copious libations, were recommended, while locally heat, in the form of hot air, sand baths, etc., was prescribed. It was admitted that iodide, iron, and arsenic were useful, but that the salicylates were only effective as a temporary measure and with the object of relieving pain. Later, guaiacol carbonate obtained a reputation for success in a certain number of cases, but it was admittedly useless in a large number. Some success has more recently been attributed to the consumption of certain vegetables in large quantity. However, none of these measures have proved successful to any great extent.

With the growth of knowledge, based largely on bacteriology, our thoughts have turned to the question of whether these conditions owe their origin to bacterial infection. In the earlier days the general opinion was that the organisms must be present, in order to cause a lesion, and failure to find the organisms in the blood, synovial fluid, or tissues surrounding the joint tended to put this suggestion out of court. Further, those who found the same organisms in each case were not believed. Latterly it has been recognized that lesions may result from the toxins of the organisms, the latter remaining at a distance and not producing septicaemia. If this view be accepted—and I think clinical evidence points to its correctness—it is obvious that the site of the original infection may be various and not always patent. The different sites of a primary lesion may also explain the varied results of treatment.

Turning now to the clinical side, there is sound evidence to show that there is a condition of acute rheumatoid arthritis which simulates acute rheumatism in many particulars. Thus there may be a sudden onset, with general febrile symptoms, a multiplicity of joints involved, and a high temperature; but it differs from acute rheumatism in that the heart is not affected, the tongue has not the typical coating, there is much less sweating, and salicylates do not produce the classical improvement. These points indicate a marked difference, and, whether or no the diseases are actually different, it is quite possible to prophesy correctly whether salicylates are going to produce a satisfactory action. I think a good working hypothesis for these two conditions is that acute rheumatism is an intestinal toxaemia, while acute rheumatoid arthritis is a toxaemia derived from another source. Salicylic acid is a derivative of carbolic acid, and has strong antiseptic properties; it, therefore, should have considerable effect on organisms inhabiting the alimentary tract, but little on an infection elsewhere. In either case the pain is diminished by this drug, but in acute rheumatism the temperature is rapidly reduced to normal; whereas in acute rheumatoid arthritis the relief is less, and the temperature not affected. The cases of acute rheumatoid arthritis which I have seen have shown the best results when some septic focus has been removed. Thus, in the case of a man 43 years of age, who had been treated with salicylates for six weeks without any effect, and who in addition to a temperature varying between 101° and 103.5°, gradually developed pleurisy with effusion and some ascites, the temperature fell to normal, and the fluid in the various synovial sacs began to be absorbed promptly after the extraction of a number of septic stumps. Other cases of that condition which I have myself seen have been due to oral sepsis, but the histories of still other cases, where an acute onset had been described, point to such conditions as pus in the antrum of Highmore, infection of the urinary tract and closing of a discharging sinus, as being capable of producing a similarly acute attack. The association of arthritis with the gonorrhoeal infection also comes readily to mind. I think, therefore, there is ample evidence to show that acute symptoms may arise in the course of a chronic infection not localized to the part infected.

Turning now to the subacute variety with slow onset and gradual progress, I have seen cases in which there was a chronic affection of the mouth (pyorrhoea), antrum of Highmore, urinary system, vagina, bronchiectasis, and have met others in which the process has been brought to a standstill by the constant administration of intestinal antiseptics. Others are recorded in association with chronic proctitis. From the appearance of the lesions it is not possible to exclude gonococcal infection—that is to say, there is nothing absolutely characteristic of arthritis due to the gonococcus affecting many joints subacutely. There are two points as regards the subacute cases which are, I think, of considerable interest. First, the preliminary symptoms are very definite. Of these the most characteristic are feelings of numbness in the extremities with stiffness, chiefly complained of in the morning, and associated with weakness of muscular power. The fingers also go dead—pale usually, sometimes cyanosed. At this stage there is no atrophy of muscles; there are also general symptoms referable to the anaemia, occasionally some enlargement of the thyroid, spleen, and lymphatic glands; the blood pressure is also low.

In connexion with thyroid enlargement I might mention the case of a nurse who developed an enlargement of the thyroid gland, tremor, rapid pulse, low blood pressure, and some general symptoms suggesting a condition of exophthalmic goitre. She was considered to be an early case of this condition, and before being put to bed for a long rest was sent to the dentist to have her mouth put in order. Several teeth were stopped and three bad ones removed. She was then put to bed, but at the end of a fortnight all her symptoms had disappeared; she resumed her duty and during the past three years has had no recurrence of symptoms of a similar kind.

The second point of interest is that, as far as clinical history can determine, the joint condition does not come

*A paper read before the Lambeth Division of the British Medical Association at the Evelina Hospital, S.E., November 24th, 1910.

on simultaneously with the commencement of the infection. Apparently there is always an interval of at least a year or eighteen months before the joints begin to swell. Two severe cases of this condition occurred in patients one of whom had had a discharging maxillary antrum for thirty-five years, and the other of whom did not know of any site of infection. In this case, however, the urine was always cloudy, even a catheter specimen (the patient was a girl), and microscopical examination and cultural methods showed that this cloudiness was due to staphylococci in large quantities.

There must, of course, be some other factor at work besides infection. Probably the toxin has to be absorbed rapidly and in large quantities in a short time. Some of the worse cases have occurred in patients who had pyorrhoea beneath a dental plate or teeth on which gold caps had been placed in the usual manner—that is, so as to project below the free margin of the gum—which would in either case produce local irritation with increased areas of vascular granulation tissue. The latter is a frequent device of the American dentist, and has been copied in this country, whereas the former condition is not uncommon in patients who have been to some quack dental operator where payment is made in proportion to the number of teeth supplied. To these cases the operator naturally wishes to supply a full set, and, "to prevent the shape of the mouth falling away," breaks off the crowns of all the remaining sound teeth, and leaves the roots *in situ*. These decay, and the pus is found exuding from the sockets from within and without the root. This condition may frequently be seen in the out-patient department. It is a remarkable, and from the patient's point of view unfortunate, clinical fact that these patients assert that they do not know what tooth-ache is. To illustrate these points it may be worth while to give one or two cases more fully.

CASE I.

H. B., aged 23 years. *History:* She was first seen by me in November, 1909; two years previously she had been for seven weeks an in-patient in hospital, suffering from typical rheumatoid arthritis, affecting hands, feet, wrists, and elbows. Under general treatment she improved, and was able to do her work until May, 1909. At this time her left knee began to swell, the right got painful, her neck became stiff, and the movement of her jaw was limited. The right wrist and hand were also affected, and the joints swollen and painful. Examination showed that all these joints were distended with fluid, that there were in addition two septic stumps and a small amount of diffusely scattered pyorrhoea. The stumps were removed and the pyorrhoea treated. This was followed by general improvement, so that two months later the only trouble complained of was the left knee, which still contained fluid, but it was noticeable that the synovial membrane, instead of being distended, was now quite slack. This was painted with iodine and bandaged, and a month afterwards the swelling had completely disappeared. Two months after this she returned again with swelling of the joint. Inspection showed that, while pyorrhoea was not extensive, there was a sinus between the two front teeth in the lower jaw. As she had a particularly good set of teeth, and as the retention of these teeth was important to her, she being a mannikin, a culture was made, and a vaccine, obtained from the streptococcus cultivated, was injected. She now turns up, at periods varying from six weeks to two months, for an injection, coming as soon as there is any symptom of swelling or pain. Her joints, with the exception of these occasional recurrences, are perfectly natural.

CASE II.

B.C., aged 29, a domestic servant, was sent up on account of pain and swelling in hands and feet, and occasionally in other joints. This had started two years previously with stiffness in the fingers and sensations of deadness which were worse in the mornings and gradually passed off with the use of the hands. A year after the onset the joints began to swell, the metacarpal and metacarpo phalangeal joints of both hands were distended with fluid, and the synovial membranes were thickened. The feet were painful, but not swollen, the knee-joints were symmetrically distended with fluid, but almost painless. The skin of the hands was moist, and she complained of this as a source of trouble to her in her occupation. She was well developed, but said that she was thinner than previously. Intestinal symptoms were marked—indigestion, flatulence, and constipation. The teeth were good, there was no bacilluria, and there was nothing to point to any disease of the antrum; in fact, nothing to suggest localized infection anywhere. She was treated with purgatives and 5 grains of guaiacol carbonate three times a day, and 1 grain of menthol when there was any symptom of indigestion. At the end of three and a half months the swelling of the joints had disappeared, but the pain still came on in the morning. She was then put on to 15 minims of dilute phosphoric acid, and a minim of creosote three times a day. Under this treatment, to which I shall refer later, the pain disappeared in the course of a month, and the stiffness in the course of a further month. During the eight months she was under treatment she gained 14 lb. in weight.

CASE III.

This case, to which I have referred earlier, illustrates the long period over which suppuration may last before the onset of symptoms supervenes. Thirty-five years previously the patient had a discharge from his nose, for which he underwent two operations on his antrum, which were unsuccessful in relieving the discharge. In the intervening time he suffered from various pains, but three years ago his joints began to swell, toes, ankles, and knees. Eighteen months ago the following joints were affected, swollen, or deformed: Wrists, ankles, elbows, hands, shoulders, and the knees and jaws were stiff. He was a managing clerk in a good position, intelligent and cheerful. He volunteered the fact that aspirin and the salicylates were quite useless. He had been told to consume large quantities of spinach, but this had had no effect on his pains. He presented a very severe condition of this disease; there was marked ulnar deflection of both hands. The joints of his fingers and wrists were swollen and the capsule thickened; he had no arch to his foot; the ankle-joints were enlarged, distended with fluid, and painful. There was much pain under the balls of his toes, and there was marked restriction of movement at the elbow. The shoulders, elbows, knees, hips, and spinal vertebrae showed various degrees of ankylosis. He was very averse to an operation on his antrum which I urged on him, saying that he had had two previous operations, in both of which he had been promised a cure, and in neither had any such thing happened. I therefore obtained pus from his antrum, which contained streptococci in pure culture, and prepared a vaccine. The injection of this had no effect at all. He obtained six weeks' leave of absence, and was operated on, a radical cure of the antrum being undertaken. This operation proved successful, with the result that the fluid absorbed from the joints, but owing to the disorganization which had taken place, his general condition is certainly no better, probably worse. He has more pain in the ankles, due to pressure as a result of the absorption of the fluid, and is not able to get about as freely as before. He has now been recommended to try artificial supports, but I am afraid the outlook is not very hopeful for him.

CASE IV.

I will quote one more case of rather a different type. A. K. was admitted to the Hospital of St. John and Elizabeth with pain and swelling in the hands and feet. She was a bright girl of 19, who gave a history of the gradual onset of pain in the fingers and feet two years previously, commencing with stiffness and tingling, worse in the morning. She had gradually developed swellings of the metacarpo-phalangeal joints, first interphalangeal articulations and of the wrists. She had double flatfoot, distension of the ankle-joints, hallux valgus and tenderness under the balls of the toes. Sweating was marked; there was no appreciable atrophy of the muscles. All the other systems were normal, except that she was passing large quantities of cocci in the urine. These on culture proved to be *Staphylococcus aureus*. Attempt was made by the administration of urotropine and other antiseptics, and by washing out the bladder, to get rid of these organisms, but with no success. Bier's treatment to the legs and arms was also tried, but was equally futile. Vaccines were also injected, prepared from the culture obtained from the urine, but beyond producing some temporary relief of pain, did not influence the disease. At the end of a year she was in much the same condition as when first seen except that albumen had appeared in the urine, with epithelial and some fatty casts. She also had occasionally oedema of the ankles. None of the above measures had any effect, and she is passing into a condition of parenchymatous nephritis.

I have seen this happen in another case, and it is interesting as a possible cause of kidney change. These four cases illustrate some of the conditions which may be associated with this sort of joint affection.

If the source of infection in these cases of rheumatoid arthritis can be detected and removed, the condition of the joints does not progress, and providing this is done before deformity has taken place, with local and general treatment, they improve to a considerable extent. Indeed, the joints may so far recover as not to leave any sign of the pre-existing condition. It is a question how much treatment has to do with this improvement. I recently saw the case of a man, 38 years of age, who had had, two years prior to 1908, most of the joints of his hands and fingers swollen and distended for a period of eighteen months. Under no special treatment, either local or general, directed against this condition, they had so far recovered as not to arouse any suspicion of the preceding state. The relief coincided with the removal of bad teeth, and wearing a false set. On the other hand, when disorganization has occurred, removal of the original cause resulting in absorption of the fluid from the affected joints, may leave the patient in a worse condition than before. The roughened ends of the bones press one upon the other, and in such joints as those of the ankle and the

smaller joints of the feet, which have to withstand considerable pressure, the pain may be worse than before, and even produce actual crippling. This was the case in the patient mentioned previously, whose antrum had been discharging for many years. In this patient the disease had advanced to such an extent that the ulna was entirely dislocated from the carpus, and could be moved in any direction away from the radius.

The question next presents itself, Can anything be done to assist in restoring a joint to a better condition where impairment has occurred to only a slight degree? There is, of course, a natural tendency for the joint to revert to its original condition as the fluid absorbs. Care must be taken not to allow any loss of mobility, owing to the repairing process proceeding too far, and for this purpose massage and passive movements are very useful. When the original source of infection has been removed, such treatment as hot sand baths, local hot air baths, and counter-irritants are almost unnecessary. It must, however, be remembered that these patients are frequently wasted and thin and have lost muscular power and subcutaneous fats. Extra diet is therefore advisable and tonics to promote appetite and digestion are also of use. Pains may be relieved by counter-irritation of varying degree, temporary fixation, and anodyne ointments. In connexion with diet and tonics in this disease, the work of M. Joulie, a Frenchman, deserves mention and, I think, considerable praise. This work seems to have escaped notice owing, perhaps, to the fact that M. Joulie is not a medical man, but his principles have been acted on by Dr. Nicolaidi of Paris. My attention was directed to this work through an article by Dr. Watkin, which was published in the *Lancet* of June 20th, 1908, which gives a good account of M. Joulie's work. The principle of the treatment consists in rectifying the condition of the urine in two points—first, the acidity, and, secondly, the quantity of phosphates which are excreted—and is based on the fact that the acidity of the urine is normally due to acid sodium phosphate. Both of these quantities are estimated relatively to the specific gravity of the urine. This appears to be a fair method, because the specific gravity of the urine is dependent on the quantity of solids, and there should be in freshly-passed urine a definite relationship between the acidity, the phosphates (when the acidity is dependent upon acid sodium phosphate), and the total solids.

It should be noticed that by this method it is claimed that the acidity is estimated in relation to the phosphoric acid, which is capable of holding lime in suspension. The French workers take this a step further and claim that the acidity and phosphate excretion in the urine depends on a similar condition in the plasma, and say that urine which is too acid indicates a plasma which is also too acid, and vice versa. Similarly, when the urine contains a quantity of phosphates above the normal, the deduction is that phosphates are circulating in the plasma in excess of the normal. There may be thus several abnormal conditions, three of which will be mentioned here, as bearing on arthritis. The first stage is an increased excretion of both alkaline and earthy phosphates, with no symptoms. When all the phosphates which can be spared have been eliminated, the quantity excreted diminishes, the cells of the body retaining all that is possible, and the deficit is further accentuated by faulty digestion. Then follow the next two stages in which symptoms of pain, etc., are present: (*a*) Both acidity and phosphate output are less than normal, but the acidity is proportionately too high; (*b*) the acidity is above normal, and the phosphate output is below normal, the acidity again being proportionately high. The acidity is here due to some other acid than the acid sodium phosphate. The alkaline phosphates are more easily excreted than the earthy phosphates. The earthy bases, combined with some other acid, such as oxalic, and insoluble owing to deficient acid phosphate, are carried as sand or gritty particles in the circulation. These settle especially where the circulation is slow—for example, in granulation tissue and inflamed areas—causing pain, etc. This may be an explanation of the deposition of lime in the neighbourhood of these chronically inflamed joints. It may seem strange to suggest that the plasma is acid, but acidity is, after all, a relative term, and is to some extent dependent on the indicator used. For instance, acid sodium carbonate $NaHCO_3$ is a chemically acid salt, and yet turns red litmus paper blue, but is neutral to phenolphthalein and wholly alkaline to methyl orange. It is well recognized that carbon dioxide exists in simple solution in the plasma, and it could not do so unless the plasma acted as an acid. In this sense, therefore, the plasma may justly be regarded as an acid of an avidity comparable with that of CO_2. M. Joulie ascribes these changes to the results of faults of digestion, but it is equally possible that they follow toxic conditions.

There has only been time to give the briefest outline of this work, and many points have been left untouched. This is, of course, only a theory, and is probably too simple to be true, but it forms a working hypothesis. It is certainly possible to modify both the acidity of the urine and the amount of phosphate it contains by the administration of different preparations of phosphoric acid or phosphates. It is also true that the urine in these patients does contain too low a quantity of phosphate and is proportionately high in acidity. After making a large number of observations, I do not feel justified in accepting the French standard of the normal, but the deviations from the normal encountered after a prolonged illness and in cases of arthritis are very great, and certainly fall outside the limits which I find to be compatible with a normal standard. By the administration of phosphoric acid or of different forms of phosphates, as indicated by the estimation, bringing the proportion of these substances—acidity and phosphates in the urine—up to a normal, there is undoubtedly improvement in the general and local condition. I therefore advocate the employment of the various forms of phosphoric acid and phosphates in conditions of chronic arthritis, as relieving pain and producing improvement in the local conditions of the joints and in the general physical condition.

In conclusion I should like to mention one case, which, although not arthritis, indicates the value of this method of treatment.

A girl, aged 23, came to King's College Hospital complaining of a swollen thumb and of the presence of certain yellowish particles which kept appearing, coming to the surface, and then discharging a putty-like material. She gave the history that some two and a half years previously she had run a splinter into this thumb while polishing a table, that the thumb had suppurated, been opened, and then healed, and that subsequently these yellow points had appeared. The thumb was bulbous, and there were five or six yellow spots under the cuticle about the size of the head of a bonnet pin. These on being examined proved to consist of calcium carbonate; there was, in addition, some contracture of the palmar fascia, and marked limitation of pronation in both arms, stiffness and pain in the forearms also being complained of. It was in connexion with this case that I first looked up the French work. An estimation of the urine showed that the acidity was not normal, and this was therefore corrected. This treatment resulted in the prevention of the deposit of further spots, and in the disappearance of the fascial contractions, so that the fingers can now be extended and the arms fully pronated.

It is inviting to suggest that the fascial pains and contractures which were present in this case were due to a deposit of lime in the fascia, and to go further and suggest, following M. Joulie, that the common fascial pains which most of us experience owe their origin to a similar cause.

THE Jeyes' Sanitary Compounds Company has received the warrant of appointment for disinfectants to Queen Alexandra. They also hold the royal warrant to King George.

UNDER the will of the late Lord Swaythling, head of the banking firm of Samuel Montagu and Co., the London Hospital, the Metropolitan Free Hospital, and the Jews' Hospital and Orphan Home, each receive a sum of £500.

THE total number of medical students in the Universities of Germany during the current winter semester is 11,156, being an increase of 31 as compared with the corresponding period of the academic year 1909–1910. Of the number 496 are women. The students are distributed as follows: Berlin, 1,864, of whom 159 are women; Bonn, 452 (including 30 women); Breslau, 438 (19 women); Erlangen, 291 (15 women); Freiburg, 732 (50 women); Giessen, 209 (17 women); Goettingen, 248 (10 women); Greifswald, 212 (2 women); Halle, 308 (7 women); Heidelberg, 509 (52 women); Jena, 305 (11 women); Kiel, 412 (13 women) Koenigsberg, 399 (13 women); Leipzig, 758; Marburg, 328 (6 women); Munich, 2,119 (59 women); Muenster, 162 (4 women); Rostock, 240 (2 women); Strassburg, 318 (7 women); Tuebingen, 333 (12 women); Wuerzburg, 530 (8 women).

NOTE ON TWO CASES OF PERNICIOUS ANAEMIA TREATED BY SALVARSAN.

BY

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SINCE I began to treat cases of pernicious anaemia by arsenic in the year 1875 I have had a large experience of the disease. The results of my observations show: That in a large proportion of cases marked improvement, and, in many cases, temporary cure, result from the arsenical treatment; that the improvement is greatest in first attacks and in cases in which the patient can take large doses of arsenic; but that in the great majority of cases, notwithstanding the arsenical treatment, relapses occur, and death ultimately takes place.

The term "pernicious," in my opinion, correctly represents the tendency of the disease notwithstanding all modern plans of treatment. When Ehrlich introduced his "606" (arseno-benzole) for the treatment of syphilis, it occurred to me that the remedy might perhaps be useful in the treatment of pernicious anaemia; I consequently decided to try it in that disease.

In the following two cases the patients were suffering from all the typical symptoms of pernicious anaemia. Under ordinary arsenical treatment (the maximum dose in one case 36 drops per diem, and in the other 27 drops per diem of Fowler's solution) considerable improvement occurred both as regards the condition of the blood and the general symptoms.

The arsenic (Fowler's solution) was then discontinued for several days, the condition of the blood and of the patients remaining practically unchanged.

The treatment by salvarsan was then commenced; each patient has had four doses of the remedy administered intramuscularly. In both cases very marked and continued improvement has resulted, both as regards the condition of the blood and the general symptoms (see below).

I do not wish to draw conclusions from two cases, or to attach too much importance to the beneficial results which have occurred in these two cases in which salvarsan has been administered; all I would say is that in them, notwithstanding the discontinuance of the ordinary arsenical treatment (Fowler's solution) and the administration of salvarsan, marked and continued improvement has occurred. Whether this improvement is the result of the salvarsan or not will have to be decided by the observation of further cases, and particularly of cases in which no arsenic has been previously administered. But the improvement in these two cases has been so marked as to justify a thorough trial of the remedy ("606") in this disease (pernicious anaemia).

The notes of the cases are as follows:

CASE I.

J. S., aged 49, married, electric hoist man, formerly a soldier, was admitted to the Edinburgh Royal Infirmary on October 12th, 1910, suffering from marked pernicious anaemia.

Previous History.

The patient first came under my observation in October, 1909, as an out-patient; he was then suffering from pernicious anaemia, not very marked in degree. He was treated with arsenic, and rapidly recovered. He returned to work, and remained fairly well until the beginning of October, 1910; he then got a chill, rapidly became markedly anaemic and very short of breath; his feet swelled, etc.

The patient denies having ever suffered from venereal disease. The bridge of his nose is sunken. The disease of the bones of the nose developed spontaneously when he was 18 years of age, and was, perhaps, the result of congenital syphilis; there are, however, no other stigmata of that condition.

State on Admission to Hospital.

The patient presented all the typical symptoms of pernicious anaemia. The blood count was as follows: Red corpuscles, 1,035,000; haemoglobin, 30 per cent.; colour index, 1.5; whites, 7,800. Differential count: Polymorphs, 56.6 per cent.; mononuclears, 41 per cent. (large 15 per cent., small 26 per cent.); eosinophiles, 2.3 per cent. The red corpuscles showed marked alterations in size and shape (poikilocytosis), polychromasia and granular degeneration. No nucleated reds were seen.

The patient was very short of breath on exertion; his feet and ankles were oedematous; there were no retinal haemorrhages. The systolic blood pressure was 88 mm. of mercury. Blowing systolic murmurs were present in the mitral, pulmonary, and aortic areas. The tongue was clean and moist. There had been no sore spots on the tongue or mouth. The patient had had no teeth for several years; his gums were perfectly normal; the false teeth which he wears had given rise to no irritation. The urine was pale in colour, specific gravity 1012, and contained no abnormal constituents.

Treatment and Results.

Rest in bed; milk diet; arsenic (Fowler's solution), commencing with 2 minims, three times daily. When the arsenic was increased to 4 minims three times daily, diarrhoea developed; this was, however, easily restrained (as I have found to be the case in other cases) by combining a small dose of morphine (5 minims of the liquor morphinae hydrochlor.) with each dose of the arsenic. The arsenic was gradually increased to 12 minims, three times daily. The patient improved considerably under this treatment as regards his general symptoms, appearance, and the condition of the blood.

On December 16th, when the Fowler's solution was stopped, the red corpuscles numbered 1,830,000, the haemoglobin equalled 52 per cent., and the colour index was 1.44.

From December 16th to 21st no drugs were administered.

On December 21st the condition of the blood was: Red corpuscles, 1,720,000; haemoglobin, 50 per cent.; colour index, 1.4.

On this date the first dose of "606" (0.2 gram) was given, the remedy being injected into the left buttock. On January 5th and 19th and on February 9th the injections of "606" were repeated, 0.3 gram being given on each of these occasions.

Coincidentally with this treatment very marked improvement has occurred. The patient now (February 23rd, 1911) looks and feels quite well. The blood count is as follows: Red corpuscles, 3,580,000; haemoglobin, 78 per cent.; colour index, 1.1. The white corpuscles, which before the administration of the "606" numbered 4,600, now number 8,000 per c.mm. The systolic blood pressure has increased to 135 mm. of mercury.

Each injection was followed by inflammatory hardness and pain in the buttock, but by practically no constitutional disturbance. The first injection was made into the left, the second into the right, the third into the left, and the fourth into the right buttock.

The condition of the blood at different dates is shown in Table I.

CASE II.

Mrs. E. P., aged 40, married, housewife, was admitted to the Edinburgh Royal Infirmary on November 15th, 1910, suffering from marked pernicious anaemia of four months' duration. The disease commenced after the birth of her last child; this and her previous seven confinements have all been attended with considerable haemorrhage.

TABLE I.

CASE I.—*Pernicious Anaemia—Showing the Results of Treatment.*

Date.	Treatment.	Dose.	Red Corpuscles.	Haemoglobin.	Colour Index.	White Corpuscles.	Blood Pressure.
				Per Cent.			
October 12, 1910 ...	Arsenic begun	2 m., t.i.d.	1,035,000	30	1.5	7,800	88
December 16, 1910 ...	Arsenic stopped	12 m., t.i.d.	1,830,000	52	1.44	4,400	102
December 21, 1910 ...	First injection "606"	0.2 gram	1,720,000	50	1.47	4,600	100
January 5, 1911 ...	Second injection "606"	0.3 gram	2,500,000	68	1.3	5,600	130
January 19, 1911 ...	Third injection "606"	0.3 gram	2,960,000	70	1.18	8,200	100
February 9, 1911 ...	Fourth injection "606"	0.3 gram	3,200,000	72	1.1	9,000	118
February 20, 1911 ...	—	—	3,380,000	78	1.16	8,000	—
February 23, 1911 ...	—	—	3,580,000	78	1.1	8,000	135

TABLE II.

CASE II.—*Pernicious Anaemia—Showing the Results of Treatment.*

Date.	Treatment.	Dose.	Red Corpuscles.	Haemoglobin.	Colour Index.	White Corpuscles.	Blood Pressure.
				Per Cent.			
November 15, 1910 ...	Arsenic begun	2 m., t.i.d.	990,000	30	1.6	4,600	108
December 16, 1910 ...	Arsenic stopped	9 m., t.i.d.	1,460,000	45	1.5	4,200	94
December 24, 1910 ...	First injection "606"	0.3 gram	1,760,000	52	1.48	3,000	102
January 7, 1911 ...	Second injection "606"	0.3 gram	2,450,000	68	1.38	4,000	108
January 24, 1911 ...	Third injection "606"	0.3 gram	3,125,000	74	1.19	7,000	98
February 9, 1911 ...	Fourth injection "606"	0.3 gram	3,350,000	78	1.16	7,600	98
February 18, 1911 ...	—	—	4,140,000	88	1.07	7,600	102
February 21, 1911 ...	—	—	4,020,000	88	1.1	6,200	—

Previous History.

Two years ago Professor Caird removed a tuberculous tumour from the sternum; otherwise she had enjoyed good health until the present illness commenced. Some three weeks before her admission she suffered from sore spots on the mouth and tongue. For many years past her teeth have been extremely bad. There is no suspicion of syphilis, unless two miscarriages and the death of a child, aged 8 months, were due to syphilis. The patient has six children alive and well.

State on Admission to Hospital.

The patient was very pale; during the past two years she has lost more than a stone in weight. There is a curious patch of herpes on the nose.

The condition of the blood was as follows: Red corpuscles, 990,000; haemoglobin, 30 per cent.; colour index, 1.6; whites, 4,600. Differential count: Polymorphs, 74 per cent.; mononuclears, 17 per cent. (large 6 per cent., small 11 per cent.); eosinophiles, 7 per cent.; basophiles, 2 per cent. The red corpuscles varied very greatly in size and shape. There were some nucleated reds; no granular degeneration or polychromasia.

Blowing systolic murmurs were present in the mitral, pulmonary, and aortic areas. The pulse numbered 100. The systolic blood pressure was 108 mm. of mercury. The tongue was pale and clean; the teeth very bad. The urine was dark in colour, specific gravity 1010, and contained no abnormal constituents. There were no haemorrhages in the retina.

Treatment and Results.

The arsenical treatment was commenced on November 15th; 2 minims of Fowler's solution three times daily. The dose of arsenic was gradually increased until December 16th, when the patient was taking 9 minims of Fowler's solution three times daily. On November 26th, 1910, a slight thrombosis developed in the lower part of the right calf, but this rapidly yielded to treatment.

On December 16th Fowler's solution was stopped. The red corpuscles then numbered 1,460,000, the haemoglobin was 45 per cent., and the colour index 1.5. From December 16th to 24th no drugs were given.

On December 24th the red corpuscles numbered 1,760,000; haemoglobin, 52 per cent.; colour index, 1.48.

On December 24th, January 7th and 24th, and February 9th, 0.3 gram of "606" was injected into the buttock. Coincidentally with this treatment very marked improvement has occurred. The patient now (February 23rd) looks and feels quite well.

On February 21st the blood count was as follows: Red corpuscles, 4,020,000; haemoglobin, 88 per cent.; colour index, 1.1. The white corpuscles, which before the administration of "606" numbered 3,000, now number 6,200. The systolic blood pressure has remained practically unaltered during the treatment.

Considerable hardness and tenderness in the buttock resulted from each injection, but there was little or no constitutional disturbance except after the last, which was followed for a few days by a swinging temperature.

March 3rd. Since the last note there has been pain and pleuritic friction over the lower part of the left chest, and some painless enlargement of the glands in the neck.

The condition of the blood at different dates is shown in Table II.

IN a report to the Persian Sanitary Council, Dr. MacConaghy, the representative of the council in the Persian Gulf, states that the sanitary facilities at Bender-Abbas, Jask, Bouchir, Lingah and Mohammerah are relatively satisfactory. Each of these ports has a disinfecting apparatus, and at Bouchir there is also a Clayton installation for what is rather quaintly called the "deratisation" of ships. Bouchir also possesses a portable disinfector which can, when necessary, be sent to any point on the coast.

The Lettsomian Lectures

ON

A REVIEW OF THE OPERATIONS FOR STONE IN THE MALE BLADDER.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON.

BY

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LECTURE III.

AN attempt was made by Deschamps in 1796 to revive the Marian operation on modified lines by what he termed a "mixed method." This resembled the lateral operation in the external incisions and the Marian in dilatation of the prostate and neck of the bladder, and he says, "who knows but at some future time surgeons may not be tempted to return to this method?" In 1819 Sir Astley Cooper extracted a stone as large as a walnut by this mixed method; in 1830 it was advocated by Dr. Buchanan of Glasgow, and in 1842 it was again brought forward by Dr. Willis. It received the name of "lithectacy," and then was heard of no more. By this time the lateral operation was becoming firmly established, and in 1853 Coulson says, "The lateral operation is now universally adopted, not only in this, but in all other countries, and hence we have prima facie reason for concluding that as a general method it is the best." The rectangular staff of Buchanan was by some preferred to the ordinary curved staff as facilitating the opening of the urethra and the passage of the knife through the prostate, but this in no way modified the steps of the lateral operation, nor was it at all widely used.

The first idea of the bilateral operation appears to have been due to Le Dran, who, in performing the lateral operation, sometimes found his internal incision was not sufficiently free. He therefore divided the right side of the prostate as well as the left. Sir Astley Cooper and others adopted the same practice. These operations, however, resembled the bilateral method only so far as the double incision of the prostate. The bilateral operation as a definite procedure was finally established by Dupuytren in 1824, and is described by William Coulson in his work on lithotrity and lithotomy published in 1853: "The patient is placed in the same position as for the lateral operation, an assistant holding the staff in an exactly vertical direction. The surgeon keeps the integument tense with the fingers of the left hand, and with a double-edged knife makes a semilunar incision in front of the anus. The incision commences on the right side, between the anus and the right ischium, ascends towards the raphe, and terminates on the left side, on a level with a point whence it set out. The middle point of the semilunar incision should traverse the raphe about ten lines in front of the anus. It involves the skin, the superficial perineal fascia, and the anterior fibres of the sphincter ani. The left forefinger is now passed into the wound, and guides the knife during a second incision which lays bare the membranous portion of the urethra; the nail now guides the point of the knife

into the groove of the staff at this part, and the membranous portion of the urethra is opened transversely to the extent of two or three lines, in order to avoid any danger of wounding the rectum. The extremity of the double lithotome is next introduced into the groove of the staff through the small incision alluded to, with its convexity turned towards the rectum, and, once fixed in the groove, it is pushed on into the bladder. The staff is now withdrawn, and the lithotome turned so as to present the concavity downwards, the blades are opened, and the instrument withdrawn in a perfectly horizontal direction. The parts divided in this second stage of the operation are the membranous portion of the urethra along the middle line, the prostate, and the neck of the bladder on both sides, in a merely transverse direction, and to an extent proportioned to the separation of the blades of the lithotome." The quadrilateral method of M. Vidal de Cassis was proposed in 1828. The first transverse incision was made as by Dupuytren, and then the prostate was divided in four directions, but the operation was never taken up. In 1824 Aston Key of Guy's Hospital published "a short treatise on the section of the prostate gland in lithotomy with a safe and easy method of conducting the operation on the principles of Cheselden"; in this he gives an account of the staff he invented for the purpose. This he designed to obviate the dangers attending the use of the gorget, and at the same time to adhere closely to the principles laid down by Cheselden in his second operation. His first attempt was made on a child who had died with a stone in its bladder, and having no proper instruments at hand he used a scalpel, a director and a pair of dressing forceps, and was struck with the ease with which the director entered the bladder. His original staff was therefore made straight, but, thinking that in depressing the handle its point might be caught by a projecting fold in the bladder, it was made subsequently with a slight upward curve at its extremity. The groove was deeper than in the common staff, to prevent any risk of the knife slipping out. The extremity was not grooved but rounded to prevent abrasion of the prostate, or mucous lining of the bladder. He points out the advantages of a straight over a curved line as a conductor to a cutting instrument, but its chief superiority consists in allowing the surgeon to turn the groove in any direction he may wish.

Before carrying the knife into the prostate, the groove, which has been held downwards for the first incision, may be turned in any oblique line towards the patient's left side that the operator may think preferable. If the surgeon preferred to use a gorget he could do so. The knife used resembled an ordinary scalpel, but was longer in the blade, and both superficial and deep incisions were made with this. The opening in the prostate could be regulated by the angle the knife made with the director. The operation was performed by passing the staff, making the usual lateral incision down to the urethra; the point of the knife was then placed in the groove in the staff. The handle of the staff was next taken in the left hand of the operator and depressed, and the groove in the staff and the edge of the knife were both turned obliquely to the patient's left side. The knife was passed on into the bladder and the prostate divided; on removing the knife the finger was introduced into the bladder and the staff withdrawn. The forceps were then passed and the stone removed.

This operation found great favour at Guy's Hospital, where it was practised for many years. Skey, however, in his *Operative Surgery*, published in 1850, criticised the straight staff of Key. He considered that "however successful in his hands, it has this defect, that it forms no guide, and as it were gives no support to the first incision. It is, however, very efficient as an agent of directing the second incision into the bladder, when its groove is once opened." He therefore had a staff "made convex in the perineum and straight beyond the curve to the point," allowing "facility of exposure of the groove, and ease in the transmission of the knife into the bladder." He also advised that the whole operation should be performed with one knife, as was first done by Aston Key.

The recto-vesical operation is said to have been performed by the Egyptian lithotomists from time immemorial, and was written about in the sixteenth century by a writer under the assumed name of Vegetius. It was described by Hoffman in 1779, and by Martin in 1817. M. Sanson brought it before the notice of the profession in France in 1817. He performed it in two ways. By the first method the patient was placed in the lithotomy position, and a staff was introduced into the bladder, the assistant being directed to keep it perfectly vertical. The left forefinger was introduced deeply into the rectum, and a straight bistoury was passed sufficiently high up (10 to 12 lines) into the gut. The edge was then turned upwards, the point of the bistoury was passed through the anterior wall of the rectum, and, with a single cut as the knife was withdrawn, the external sphincter and the inferior portion of the rectum were divided along the middle line; the lower surface of the prostate was thus exposed. The forefinger then easily felt through the thin walls of the bladder the groove in the staff. The point of the bistoury was now made to enter the groove in the staff just behind the prostate, and the wall of the bladder was divided in the middle line for about an inch in length. Sanson, however, soon gave up this method, and substituted for it the one practised by Vacca. In this, the point of the knife having passed through the wall of the rectum, the sphincter ani and the perineum were divided from the anus to the bulb. The prostate was now exposed, and in front of it the operator felt the groove in the staff in the membranous urethra; he then inserted the blunt end of the bistoury in the groove at this part, and, raising the staff a little, he passed the bistoury forwards until its point was just beyond the neck of the bladder. The handle of the bistoury was then lowered, and the prostate was divided directly downwards on the middle line. This incision did not go beyond the limits of the gland, or touch the incision already made in the intestine. This method does not seem to have received any real support, for though by it the stone could be easily extracted, the danger of a recto-vesical fistula resulting was found to be a very real one.

The median operation was to some extent a modification of the Marian. In 1727 Douglas having observed the capability of distending the urethra under a gradual dilatation, suggested making an opening through the perineum into the urethra and then dilating with gentian and other tents; he came to the conclusion that "these artificial fistula may be dilated so as to extract any stone without cutting the body of the bladder or lacerating any of its parts." In 1796 Deschamps proposed a mixed method, but his incision was oblique and not median, and he dilated as in the Marian operation but more slowly. In 1819 Sir Astley Cooper extracted a stone through a fistulous perineal opening enlarged by the hydraulic dilator of Dr. Arnott. The dilatation lasted thirty hours, the stone was as large as a small walnut, the diameter of the passage being dilated to the extent of ¾ in. In the *Medico-Chirurgical Review* for 1846 there is an account of an operation by Joseph Bresciani de Borsa. This operation was a modification of one by Signor Manzoni of Verona published in 1808, and de Borsa states that of 100 cases operated on by that surgeon and himself only one died, and that from causes irrespective of the operation. Manzoni's operation consisted in cutting into the spongy portion of the urethra only, and then dilating the proximal portion sufficiently with the finger to admit the introduction of the forceps and the removal of the stone. De Borsa, however, carried his incision from the bulb to the prostate, not dividing this but dilating the prostate with his finger. A keen advocate of the median operation in this country was Allarton, who in 1854 published a work dealing with it under the title of *Lithotomy Simplified*. His method was as follows: After introducing a grooved staff into the bladder the left index finger was inserted into the rectum, its point resting against the prostate so as to fix the staff and serve as a guide to the knife. The perineum was next pierced just above the anus and the knife pushed on with its back to the rectum until it touched the groove in the staff. Its point was then pushed into the prostate for a distance of ¼ in. to ½ in., and the membranous urethra slit up to its full extent. As the knife was withdrawn the external incision was enlarged to from ¾ in. to 1½ in. by cutting upwards. A bullet probe was then passed along the groove of the staff into the bladder and the staff was withdrawn. The left index finger was next gradually introduced along the probe into the bladder and the forceps being inserted the stone was removed. He claimed the following advantages for this operation:

The impossibility of missing the bladder, the smaller amount of cutting than in the lateral operation; the neck of the bladder was uninjured; only a small quantity of blood was lost as the prostate was dilated and not incised; the urine was passed at once by the urethra as well as by the wound; the stone was easily reached; it was possible to break or crush the stone if necessary and to wash out the fragments from the bladder; the small amount of pain; the absence of danger from urinary infiltration; no muscle or vessel of any consequence was divided; there was no danger of wounding the rectum, the operation was easy to perform and recovery was rapid. The operation, however, though extensively practised in the provinces, never found much favour in London.

LITHOTRITY.

The occasional passage of a stone by the urethra must have suggested to the careful observer the possibility of dilating the urethra so as to facilitate the passage of a small stone, or to enable one to be seized with a suitable instrument and drawn through the urethra, or of being able to break up a stone, already too large to pass, into small fragments which could be voided with the urine. Indeed, the breaking of a large stone had been practised from time to time for many centuries, when it was found to be impossible to extract it through the incision made in the Celsian operation. The Egyptians practised the removal of small stones by dilating the urethra, and the same method was adopted by the Arabians. Tolet, in his *Treatise of Lithotomy* published in 1683, quotes Prosper Alpinus, in his book of the medicine of the Egyptians, who describes their practice of extracting a small stone without making incision, but only by dilatation of the urethra by blowing into the yard. He, however, owns that he does not comprehend this method, nor does it seem that it could have been of much value. Like many other surgical procedures, the origin of lithotrity can be traced back for many centuries, though it was not placed on a sound footing until nearly one hundred years ago. The idea of extracting a calculus from the urethra without cutting was naturally suggested when it was impacted in that canal and was within reach. Such calculi were sometimes extracted whole, at others broken up to facilitate their removal. Hippocrates refers to Ammon of Alexandria, who broke up calculi with a mason's chisel, and was therefore called Lithotomos. The operation of breaking up urethral calculi was described by Albucasis, a Moorish surgeon, who lived at the end of the eleventh century (1090). The penis was tied between the stone and the bladder to prevent the stone slipping back, which was then broken by a kind of drill. Franco, in 1561, refers to the breaking of a stone, and gives the drawing of an instrument for perforating the calculus which he borrowed from Gui de Chauliac (1546). Franco also employed an instrument which he calls vesical à quatre for the extraction of calculi from the bladder. This consisted of an iron rod supporting four branches at its extremity, and enclosed in a cannula. Hildamus used a similar instrument having three branches, and later on these were reduced to two. Similar instruments were used by Hunter and by Sir Astley Cooper. The shape of these instruments may have been suggested by the ball extractor of Alphonso Ferri (1553), which was a three-branched instrument enclosed in a cannula, and both worked by a screw. With such instruments calculi were extracted from the bladder as well as from the urethra. In 1506 Antonio Benevieni broke up a stone in a female bladder by percussion; he fixed it by passing a hook behind it, and then struck it with an iron rod. In 1519 Alsaharavius suggested the idea of breaking small friable stones in the bladder with an instrument, but gave no description of it. In 1626 Sanctorius gave the plan of an instrument composed of a tube, one extremity of which was divided into three flexible branches. He says that if a fragment of a stone or an entire stone descended from the kidney and was not expelled with the urine soon after its descent into the bladder, it might be extracted by first filling this organ with water and then introducing the instrument through the urethra, the branches of which, when arrived in the bladder, should be expanded and applied close to the neck. He thinks that by then letting the water escape the stone would be carried forwards towards the three branches, seized by them, and extracted by withdrawing the instrument from the bladder. The next advance on this was to suggest that if the stone was too large to be removed it should be perforated, and this Haller seems to have suggested, though he believed it to be impracticable. In 1671 Ciucci, an Italian surgeon, speaks of a "tenacula tricuspis" for seizing the calculus and breaking it into fragments; and in 1791 Thomassini broke up small friable calculi in the bladder. In 1559 an Irish gentleman was cured of a stone by instruments being passed into his bladder, by which the stone was broken. The case of Colonel Martin is a somewhat similar one. He first tried to break off fragments of his stone with a catheter with small holes in it, but, not bringing away much, he then tried a bougie with a serrated extremity with more success; but, from his own account, it is evident he never really got rid of the stone. The case is referred to by Sir Everard Home in his *Disease of the Prostate*, and, though the colonel wrote an account of his case to his friends in 1791, saying that he was completely restored to health, Sir Everard says:

> There is nothing in his own narrative that gives the idea of his being free from considerable distress during any part of the time after the stones are stated to have been removed; and as he was allowed by his best and most intimate friends to shoot with a long bow upon ordinary subjects great allowances are to be made for him upon this, which was his hobby horse, on which he was anxious to be carried down to posterity as a conspicuous character.

In 1813 a Bavarian physician, Dr. Gruithuisen, demonstrated, what was known before, that a large straight sound could be passed on the living subject, and conceived it possible to attack stones in the bladder by mechanical power. Through a straight tube introduced into the bladder he recommended another to be passed conveying a metallic wire nicely adapted to encircle the stone and fix it against the open mouth of the second tube; a small trephine was to be introduced through this tube, and with this the stone, which was to be fixed by the loop of wire, was to be perforated. The trephine was to be worked by means of a drill bow; the instrument was, however, never used, and the project was soon forgotten. In 1819 an English surgeon, Dr. Elderton, proposed a somewhat similar instrument, but this was curved instead of being straight. In 1822 Amussat and Leroy introduced two instruments for breaking stones in the bladder. In M. Amussat's the destruction was effected by the pressure of the branches of which it was composed, which were made to act alternately by means of a lever. M. Leroy's instrument consisted of a hollow straight sound, through which passed a metallic rod turned by a winch handle and by this means the stone was to be perforated. The stone was secured by four watch springs, united together at one end by a kind of button, which, when the instrument was shut, formed the extremity of the sound, and when pushed out the two loops crossed and grasped the stone. M. Leroy successfully demonstrated its action on the dead body. He was not, however, satisfied with the instrument, and designed another made of a steel tube supporting three branches of the same metal, diverging from each other by their own elasticity and closing again by means of the external tube which drew them together when they were drawn into this. A drill was passed down the tube for the purpose of perforating the stone. To Civiale is due the credit of establishing the operation of lithotrity. In 1817, when an impecunious medical student, working under Dupuytren, he made some models in wood of an instrument for breaking up a stone in the bladder. He then applied to the French Minister for pecuniary assistance towards constructing his instruments, and forwarded a short memoir, entitled, "Some Details of a Lithontriptic." The matter was referred to the Faculty of Medicine, but no notice was taken of his invention. Nothing daunted, Civiale, who was convinced that his method would in time be successful, continued his researches, and in 1819 he reduced the six branches of his instrument to four, and in 1820 to three, adding the bow drill and other improvements. In January, 1824, he again addressed a memoir to the Institute of Medicine, and on the thirteenth day of that month he performed his first operation in the presence of the Commissioners who had been appointed to report on his work. The patient was freed from his stone in two sittings. On February 4th his second patient was operated on and the stone removed in four sittings, and on March 4th he secured a

similar success. On March 22nd, the Commissioners, Barons Percy and Chaussier, reported favourably on Civiale, and considered that he not only discovered the principle but the means of carrying it into practice. As the result of this impartial report, M. Civiale may fairly be regarded as the discoverer of lithotrity. The actual destruction of the stone was effected, after it had been seized, either by perforation, by percussion, or by crushing.

In 1825 Dr. Haygarth invented a sliding instrument for the purpose of extracting small calculi from the bladder, and at the suggestion of Mr. Hodgson, of the General Hospital, Birmingham, a screw was attached to the instrument so that it might be used for crushing, and in the same year Mr. Hodgson tried the instrument. Mr. Weiss had made in the previous year a crushing instrument, with the blades placed one over the other and having a gliding movement. True crushing appears to date from 1832, when Baron Heurteloup produced his percussor; this was soon modified so that it could be used either for percussion or for crushing. Some surgeons, however, returning to the principle of Mr. Weiss, gave up percussion, and crushed either by pressure with the hand alone or with a screw. Baron Heurteloup's percussion instrument may, therefore, be regarded as having led on to the adoption of crushing. In the same year Dr. Costello introduced to the Westminster Medical Society his improved instrument consisting of a male and female blade, and a controversy arose between him and Mr. Weiss, whose original instrument was made in 1824, as to priority of invention. Mr. Weiss had at that time demonstrated the power of his screw instrument to Sir Benjamin Brodie, and the screw acted with so much force on a hard calculus that it was feared the bladder might be injured by the force with which the fragments would fly apart, and to avoid this risk Sir Benjamin suggested the addition of a saw.

The principle of crushing by means of a screw was, however, rejected for a time until the use of Heurteloup's percussor showed that the danger from flying fragments was imaginary. Since that time many improvements in detail have been made, but the principle remains the same. The object of the surgeon was to crush the stone by repeated operations or sittings as they were called, each lasting only a few minutes and repeated at intervals of three or four days. Some of the débris was brought away in the lithotrite, and of that remaining in the bladder the smaller fragments were expelled by the urethra, and the larger portions were again crushed and the process continued at suitable intervals until all were removed. There was then, as indeed there is now, much difference of opinion as to the respective merits of cutting and crushing operations. In the *Lancet* for 1835 there is much discussion on this point, and in an annotation in the number for May 2nd the position is summed up as follows:

> So far as our own observations and inquiries have extended, we are inclined to believe, that if lithotrity were to be taught generally in the schools, and brought into ordinary use amongst practitioners, the cutting operation for stone would in a few years become obsolete; because the facility with which small stones could be crushed, would leave no large calculi to require the use of the knife.

Twenty years later Sir Benjamin Brodie read some "Notes on Lithotrity" before the Royal Medical and Chirurgical Society on March 13th, 1855, in which he says:

> Although the operation of lithotrity has been for many years extensively and successfully practised in a neighbouring country, it has hitherto been adopted only to a limited extent by British surgeons: yet if I may be allowed to judge from the results of my own experience of it, it must be regarded as a method of relieving those who suffer from calculus of the bladder which is attended with much less uncertainty and danger—being at the same time much less formidable to the patient—than the operation of lithotomy.

He then quotes the figures of Mr. R. Smith of Bristol, published in Volume XI of the *Transactions* of the same society, as to the deaths after lithotomy—in Bristol they were 1 in 4½, in Leeds 1 in 5, and in Norwich 1 in 7½—and remarks "there is no reason to believe that the success of lithotomy is greater now than it was when Mr. Smith collected his observations"; the truth of this observation is borne out by these statistics of the cases operated on in the London Hospital in 1854, collected by Mr. Charles Hawkins: Fifty-nine patients were operated on and 10 died, being in the proportion of rather more than 1 in 6. The deaths in children were 1 to 14 recoveries, while among adults the deaths and recoveries were equal.

In spite of the obvious objections to lithotrity as then practised, and of the fact that the instruments were being improved as further experience was gained, no great advance was made until 1878, when Bigelow of Boston showed that it was possible to break up a stone so completely at one operation that all the fragments could be washed out through a large evacuator. For some years previously to this various attempts had been made to remove fragments by suction through evacuating catheters, such, for instance, as the apparatus designed by Clover, but there had been no recognition of the fact that it was possible completely to remove a large calculus on these lines at one operation. Moreover, the use of these evacuating catheters had not proved satisfactory to those best qualified to judge of their efficiency, so that the method introduced by Bigelow was a veritable revolution and struck a blow at the rules previously laid down by experts for the safe performance of the operation. He boldly used large lithotrites and large evacuators; the patient was placed under an anaesthetic, and he did not hesitate to prolong the operation until all fragments were removed. To this procedure he applied the name of "litholapaxy," though at the present time the older name of "lithotrity" is perhaps more generally used, and is understood to refer to crushing and evacuating completely at one operation. The earlier lithotritists were in favour of short and frequent crushings, and when anaesthetics came into use they considered it undesirable to employ them for fear of possibly inflicting injury to the bladder by prolonged efforts on an unconscious patient. Some few, however, and notably Sir Henry Thompson, frequently used anaesthetics for this operation, and did not meet with any bad results by so doing.

With the establishment of Bigelow's operation surgeons were enabled to consider the possibility of dealing with larger stones by crushing than was formerly the case, and also of extending the operation to boys who up to this time were not considered suitable for this method. Their efforts in this direction were assisted by the improvements made in the construction of the lithotrite, for it was found that, while its size could be materially diminished, its efficiency for such calculi as were likely to be met with in boys was in no way impaired. Lithotrity does not occupy the position in this country that it does in India or Egypt. In those countries it is the operation of choice, and the brilliant results that have been obtained there are ample testimony to the skill of the surgeons, who have, with an unrivalled experience, brought this operation to a state of perfection that leaves little room for improvement. The large number of cases of stone coming for treatment has enabled them to acquire great manipulative dexterity, and they have demonstrated, beyond any doubt, that in skilled hands and with suitable instruments the operation is well adapted for almost any stone that may be met with. For these advances we are indebted to Keegan, Freyer, Forbes Keith, Dennys, R. Baker, Milton, and many others. It is probable that lithotrity will never be so generally adopted in this country as in those where stone is so common, for it is essentially an operation that requires much practice to enable the surgeon to become thoroughly efficient, and it is evident that with us the opportunities for treating cases of stone are becoming less frequent; while, therefore, it is practised by some in certain selected cases, there is no doubt that, under the circumstances here, the suprapubic operation is on the whole preferable. The operation of perineal lithotrity was first performed as a definite procedure by Dolbeau, a French surgeon, in 1862, and some years later was reintroduced by Mr. Reginald Harrison. It was performed by passing a grooved staff into the bladder, and making a small incision with a tenotome through the perineum into the membranous portion of the urethra, which is then dilated to the required dimensions either by the index finger or by a specially constructed pair of forceps, or by the passage of metal bougies. This dilatation must be just sufficient to allow the lithotrite to pass without difficulty. If too extensive, the water will escape from the bladder, and difficulties will be caused by the contracted condition of that organ.

The advantages claimed for this operation by Mr. Reginald Harrison (*Lancet*, April 7th, 1894) were:

1. That it enables the operator to crush and evacuate large stones in a short space of time.
2. It is attended with very small risk to life as compared with other operations when any cutting is done, and is well adapted to old and feeble persons.
3. It enables the operator to wash out the bladder, and any pouches connected with it, more effectually than by the urethra, as the route is shorter and the evacuating catheters employed are of much larger calibre.
4. The surgeon can usually ascertain, either by exploration by the finger or by the introduction of forceps into the bladder, that the viscus is cleared of débris.
5. It enables the surgeon to deal with certain forms of prostatic overgrowth and obstruction complicated with atony of the bladder in such a way as to secure not only the removal of the stone, but the restoration of the function of micturition.
6. It allows of efficient drainage by means of a tube through the wound.

Mr. W. H. Henderson refers to this operation in the *Indian Medical Gazette* (August, 1900), and points out that it can be performed when the urethra will not admit a sufficiently large instrument, or when the stone is large and hard; that convalescence is very rapid, and that micturition is usually a voluntary act, the wound consequently is not irritated by the constant passage of urine. Dr. P. Darrell Pank, writing in the same journal, says, "Lateral lithotomy is, in my opinion, the best operation when it is necessary to do a cutting operation at all, and if the stone be so large that the surgeon has doubts of successfully extracting it through the perineum, then I think the best thing he can do is to make a small median perineal incision on a grooved staff into the bladder, sufficiently large to admit a lithotrite big enough to crush the stone, the fragments of which should be removed by a large cannula and aspirator, as one would operate by litholapaxy in the female." He reserves this operation only for those cases which from some very uncommon cause cannot be operated on by litholapaxy. This method has not met with much support, and it is doubtful whether even in the few cases that are considered suitable, it offers any advantages over a suprapubic operation.

In order to ascertain what operations surgeons are performing for vesical calculus in this country, I ventured to send out certain questions to those attached to the larger hospitals, with a request that they would favour me with replies. I should like to take this opportunity of thanking all those who have returned answers to my inquiries for the trouble they have taken in supplying me with the information I required. Before dealing with the several points at issue I wish to draw attention to some general remarks that have been made on the subject; and first, as to the prevalence of stone. Quite a number of surgeons have remarked that they do not see so many cases of vesical calculus in their hospitals as formerly, and this statement does not refer to any particular part of the country but to districts widely separated. For instance, from Norwich: "We scarcely get any cases of stone in the bladder now, though fairly common in the kidney, this is a great change, as I can remember about thirty years ago seeing three lithotomies in one morning" From Liverpool: "Stone in the bladder is comparatively rare here, certainly ten in the kidney to one in the bladder." From Northampton: "Used to have a number of stone cases, but for the last ten years have been almost none." A London surgeon says: "Very few cases of stone (vesical) come into the London general hospitals." From York it is stated that "cases of stone are very scarce in this district," and practically the same remark is made from Oldham, Sunderland, Sheffield, Bradford, Chester, Bristol, Cumberland, and Huddersfield. There seems to be a very strong expression of opinion that vesical calculi are not as commonly met with as formerly, though renal calculus is regarded as being more frequent. It may be that improved methods of diagnosis have demonstrated the presence of calculi in the kidney that formerly would have been undetected, and that might not have shortened the patient's life. Why stone in the bladder should be less common now than formerly is an interesting and difficult question, but is one that is outside the scope of these lectures.

Another point to which attention has been incidentally drawn is how far it is advisable for a surgeon to perform lithotrity when his opportunities of acquiring practical experience of it are limited. Several surgeons have expressed their opinion on this point, and the views they hold may be summarized by saying that unless you see enough of stone to become proficient in lithotrity it is better to cut.

To the first question—What operation do you usually perform on the removal of a stone before the age of puberty?—there were 221 replies, which may be grouped as follows:

Suprapubic lithotomy, 144.
Lithotrity for small stones, suprapubic lithotomy for others, 35.
Lithotrity if possible, 9.
Lithotrity, 7.
Suprapubic lithotomy as a rule, sometimes lithotrity, 9.
After 4 years lithotrity; before, suprapubic, 2.
After 7 years lithotrity; before, suprapubic, 1.
Lithotrity almost invariably, but in large hard stones in very small children suprapubic, 6.
Lithotrity if no permanent cystitis, 2.
Lithotrity or suprapubic, 1.
Lithotrity or lateral lithotomy, if the stone is large, suprapubic, 1.
Median lithotomy, 1.
Lateral lithotomy but lately suprapubic, 1.
Suprapubic, and if the stone re-forms median or lateral lithotomy, 1.
Lateral lithotomy, rarely lithotrity, 1.

From an analysis of these figures it is clear that the suprapubic operation is the one usually performed. Seven only refer to lithotrity as the method adopted, without any reference to the size of the stone or other circumstances. The others who perform lithotrity do so only after making choice of such cases as seem suitable in their opinion for the operation. The lateral operation as well as the median are still mentioned, though apparently are very seldom performed.

To the second question—What operation do you usually perform for the removal of a stone from the male bladder after puberty when there is no evidence of prostatic enlargement?—there were 240 replies, as follows:

Suprapubic lithotomy, 116.
Lithotrity, 29.
Lithotrity as a rule, 28.
Lithotrity for small stones, suprapubic lithotomy for others, 48.
Almost always suprapubic lithotomy, otherwise lithotrity, 8.
If the stone is small and smooth, lithotrity; an oxalate or a stone of 1 in. diameter, suprapubic lithotomy, 3.
Lateral lithotomy occasionally, especially when the urine is foul, 2.
With persistent foul cystitis, suprapubic lithotomy in two stages, the bladder being attached to the deep part of the incision in the parietes and opened in forty-eight hours, 1.
Formerly lateral lithotomy, of late suprapubic lithotomy, 1.
If the stone is large median urethrotomy with crushing after the method of Reginald Harrison, 1.
If stone is small, median or lateral lithotomy; if large, suprapubic, 1.
Lithrotrity except with sacculation or sepsis, then suprapubic lithotomy, 1.
Lithotrity if possible, if not, suprapubic lithotomy, 1.

These returns show that surgeons are prepared to consider the advisability of performing lithotrity in the adult more frequently than in boys, but the number of those who practise the suprapubic operation is in excess of those who use lithotrity, and it should be noted that of these a large number reserve it for small stones, doing the suprapubic operation for large ones.

The third question, as to the treatment of stone when there is evidence of prostatic enlargement, elicited 224 replies, as follows:

Suprapubic lithotomy, 202.
Perineal prostatectomy and lithotomy combined, 1.
Suprapubic operation if there is obstruction with residual urine and cystitis; crushing and washing out if no cystitis, 1.
Suprapubic operation and perineal drainage, 2.
Suprapubic operation, rarely a perineal with enucleation, 1.
Lithotrity with well-elevated pelvis or suprapubic if necessary, 2.
If slight enlargement, lithotrity; if considerable, suprapubic lithotomy, 6.
Lithotrity if possible, if not, suprapubic lithotomy, 5.
Lithotrity in the majority of cases, 3.
Sometimes perineal lithotomy with removal of prostate, 1.

For the treatment of stone in the prescence of an enlarged prostate, the suprapubic operation is, from these

returns, the method adopted by almost all surgeons, only 16 out of 224 being prepared to discuss the desirability of attempting lithotrity under these conditions.

The fourth question dealt with the treatment of the wound in cases of suprapubic lithotomy. There were 230 replies, as follows:

Complete suture of the bladder and of the abdominal wall without drainage, the urine being normal, 33.
Complete suture of the bladder, suture of the greater part of the abdominal wall with drainage, either by a tube or by gauze above the pubes, 71.
The same with in addition a catheter in the bladder, 9.
Complete suture of the bladder and of the abdominal wall without suprapubic drainage, but with a catheter in the bladder, 5; or with the passage of a catheter at regular intervals, 1.
Partial suture of the bladder and of the abdominal wall with drainage by a tube entirely, 9; by a tube for a time and then by some apparatus, 5; or by a catheter, 1; or by drainage at once by some apparatus, 1.
No suture of the bladder or of the abdominal wall, drainage by a tube entirely, 42; by an apparatus, 18; by a tube for a time and then an apparatus, 24; by a tube and catheter, 1; by pads only, 2.
Suture of bladder to abdominal wall and drainage by a tube, 4; by an apparatus, 1; without either tube or apparatus, 1.
Perineal drainage, 1.
No sutures or drainage, 1.

The chief point of interest in this question is as to suture of the bladder and of the abdominal wall, and whether a drain is used or not. It is evident that there are few surgeons who venture to sew up the bladder and close the abdominal wound without some form of drainage, though there are many who will close the bladder and use a drain to it; while rather more than half the number prefer to use either partial suture or none at all.

Such is the condition of practice for stone in this country at the present time, and though it is always uncertain what changes may take place in the future, it does not seem probable that there will be any great alteration in the immediate future. No doubt, under modern conditions, the lateral operation would yield good results, so far as the mortality of the operation is concerned, if done by surgeons who had fairly frequent opportunities of performing it. But, in addition to those dangers which might be avoided by a skilled operator, there is the possible injury to the ejaculatory ducts, and consequent sterility, which is beyond the control of the surgeon. There does not seem to be any real effort at the present time to displace the suprapubic operation by crushing, nor does it seem likely that any great improvement can be made in the details of the former, so that we may fairly regard the mode of treatment of to-day as likely to continue for some time. I have ventured to bring this subject before this society in the belief that it is good at times to review the methods we adopt. I can only hope that by so doing I have aroused an interest in the past, and have shown that we are indebted to no small extent to the labours of those who have preceded us.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TREATMENT OF THE URETHRA FOR LOCOMOTOR ATAXIA.

AFTER the notice on Dr. Jaworski's book, in the JOURNAL of January 21st, 1911, page 142, some observations on this treatment may be of interest. For the past year I have been practising this method after instruction from Dr. Denslow. Dr. Harry Campbell sent me most of the cases, which have reported progress to him from time to time. There have been seven, of one to ten years' standing. One suffering from phthisis after showing decided improvement in tabetic symptoms during February and March, 1910, developed acute phthisis in July and died in September. Six others have all improved, they say, more than under any other treatment. Three may at present be considered clinical cures (Cases 1, 2, and 5).

1. S., aged 39, an incipient case of about a year's standing, with loss of knee-jerks, marked Rombergism, Argyll Robertson pupils, and neurasthenia, with depression; is now apparently well.

2. V., aged 57, a case of nine years' standing, with "pains," advanced ataxia, amblyopia, anaesthesia of feet, and numbness of hands; has practically lost all these symptoms; he can now read without glasses and walk several miles at a stretch without the aid of a stick. Previously to walk a few hundred yards was a task. No longer emaciated.

3. D., aged 46 (ten years), improved considerably in gait, but has not lost his rectal crises.

4. W., complete ptosis of left eyelid, is now partial, and he "feels much better." He had no ataxia.

5. The case of B., aged 42 (ten years), is interesting, for though frankly admitting gonorrhoea and bad stricture, he denies convincingly that he has had syphilis. He was previously laid up for a week or so in nearly every month, with "pains," but since August, when he began treatment, he has not so suffered. His pains during this ten years did not get much worse. He is now practically free, and, like W., feels better, indeed well.

Knee-jerks do not seem to return, nor has the pupil improved noticeably in any case yet treated.

A noteworthy feature has been that urethral dilatation seems to reproduce symptoms at the time, while diminishing them in the interim. Two got violent eructations; one does still; the other then had his worst attack, and, save for a few minor eructations, did not so suffer again, though they had been of almost daily occurrence.

B. always gets pain down his left leg during treatment. His lightning pains were only in this leg.

I can bear out Dr. Jaworski's advice to "go slow," for I believe rapid dilatation does more harm than good.

The conclusion would seem to be that with an organism vitiated by a syphilitic virus the symptoms of locomotor ataxia can be produced by constant impulses from a peripheral focus of irritation (not necessarily an *obvious* stricture), and it is conceivable that changes in the cord could be effected by disturbance in the blood supply there, caused by the same or accompanying impulses. Further, cases like those of B. suggest that if the exciting cause (stricture) be sufficiently intense tabes may be produced without the predisposing cause (syphilis). The prevalence of tabes in males seems to favour the foregoing. Sclerosis of the cord was, I take it, made to account for the symptoms and has not been proved to be the primary cause, the whole cause, and the only cause of the symptoms.

I may add that, save in Case S., who was told that he had deranged nerves, no patient has been promised improvement. All were told only that some good results have accrued from the treatment. If they are now hypnotised, they must have hypnotised themselves or one another.

The late histories of syphilitics known to have had stricture might throw some light on this subject.

London, W. E. T. JENSEN.

TEAR OF THE PERINEUM: ENDOCARDITIS: RECOVERY.

A PATIENT was admitted to the Royal Infirmary, Edinburgh, on October 30th, 1909, with the following history: She was a dairymaid, aged 19, and at 4 a.m. on the same day was attending to her duties in a cowshed and cleaning out a feeding-trough; she was bending down just in front of one of the cows which had its head down eating, when the animal suddenly raised its head and one of its horns struck the girl on the perineum. The girl lost a considerable amount of blood before the arrival of a doctor at 4 p.m., and she was sent to the infirmary, where she arrived at 6 p.m.

There was a complete tear of the perineum, and the recto-vaginal septum was torn through for about one inch. As the wound was not very clean, no attempt was made to repair the perineum at the time. Three weeks after admission the girl had a rigor, felt sick, and the temperature rose suddenly to 104° F.; a soft blowing murmur was discovered over the heart in the mitral area. A diagnosis of endocarditis was made, and, after other remedies had failed, polyvalent antistreptococcal serum was given by the rectum, with the result that the acute symptoms gradually subsided, although for three weeks the girl's condition was very grave. After her recovery from the endocarditis the perineum was repaired, and she left hospital ten weeks after admission, well but with a systolic mitral murmur.

The case is interesting because of the very rare accident which resulted in a complete tear of the perineum. There was no malice on the part of the cow, which was a very quiet animal. The horn struck the perineum directly without first passing through any of the girl's clothes, for there was not a mark of any kind on her garments; and there can be no doubt that the endocarditis was the result of septic infection from the wound in the perineum.

I am indebted to Mr. N. T. Brewis for permission to publish this case.

A. E. Turnbull, M.B., Ch.B.Edin.,
Late Resident Gynaecologist, Royal Infirmary, Edinburgh.

FOUR CASES OF INFECTIVE PNEUMONIA.

In view of the outbreak last year in this country of plague in pneumonic form, it may be of interest to place on record the following cases:

On March 16th, 1910, A. B., aged 44, went to work in the morning; he had a violent rigor, and had to come home to bed. I saw him about midday, with a temperature of 104.2°, flushed face, quick pulse, rapid breathing, and dry skin; there were no other physical signs. On March 18th he developed signs of pneumonia in the left lung; this did not follow the ordinary course of acute pneumonia. It occurred in varying sized patches all over the lung. On March 21st the other lung became affected in a similar manner; he became very delirious, and died in the early hours of March 24th.

His son, J. B., aged 17, was taken ill on March 30th; he developed the same symptoms of a patchy pneumonia in both lungs, but his temperature never rose above 102.8° F., nor was his illness so acute. He had a sort of crisis on the sixth day, and then very rapidly became convalescent.

E. T., aged 56, sister of A. B., living in the next street, and who nursed him during his illness, was taken ill on April 1st, and developed signs of a patchy pneumonia in the left lung on April 3rd. She seemed better on April 5th; the temperature was lower, the breathing was not so rapid, and the physical signs were abating. On April 6th signs developed in the other lung; she became delirious, and died on April 8th.

R. C., female, aged 21, who was engaged to J. B. and visited him during his illness, was taken ill on April 15th. She was attended by Dr. Williams, who kindly allowed me to see her with him. Her symptoms were exactly the same as in the other three: high temperature, patchy pneumonia, dry skin, furred tongue, etc. She was convalescent on May 1st

The sputum in all these cases was alike. It was very viscid, transparent, and airless, but had only a very faint suspicion of the rusty colour of pneumonic sputum. Bacteriologically it was reported to contain a few pneumococci, but the predominant organism was a short Gram-negative bacillus morphologically resembling Friedländer's bacillus. A further report by the Lister Institute stated that this organism did not answer to the cultural reactions of Friedländer's bacillus, nor did it resemble any of the more commonly known pathological organisms, but it most closely resembled Grünthal's bacillus, a "coliform" organism.

The medical officer of health had all the rooms thoroughly disinfected, and no further cases occurred.

London, W. Percy W. Spaull, M.R.C.S., L.R.C.P., D.P.H.

MIGRAINE AND ERRORS OF REFRACTION.

The memorandum from Dr. Pocock in the Journal of January 28th is very instructive. Among other things it shows the great value of a minutely careful retinoscopy. During the few years I have worked at refraction it has surprised me to note what immediate and complete relief is obtained by the correction of a very small degree of astigmatism. It is these cases of slight ametropia that give most trouble to the refractionist and that most easily lead to mistakes in prescribing. When, as in Dr. Pocock's case, the ametropia, though slight, is nevertheless unsymmetrical, the resulting distress appears to me always to be greater than in a symmetrical case.

London, N. A. Howie.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH:

Pathological Section.

Friday, January 27th, 1911.

Dr. Melson in the Chair.

Scleroderma.

Dr. Melson showed a case of scleroderma in a girl aged 12. Although conforming to the rarer diffuse variety in its main features, the disease was strictly unilateral in its distribution. In this respect it resembled the earlier condition of the classical case of Eliz. Nicholls, from the later developments of which Addison published the account of the circumscribed form of the disease bearing his name. There was a history of unhygienic surroundings, and a probable taint of both tubercle and rheumatism in the family. The onset was sudden two years ago, and followed by a rapid development of diffused patches of the hide-bound condition, especially upon the face, neck, chest, body, and lower limbs, all strictly of the right side. The main stress of the disease seemed to have expended itself by about the eighth week, to be followed by gradual contraction and progressive general emaciation. Pigmentary changes were very noticeable in the eyelashes and in the ivory-white centres of some of the patches, with their marginal colourings of various shades and depths, chiefly of a dirty brown hue. The atrophy had fixed the right side of the mouth, giving a corpse-like look to that part of the face. There was thinning of the hair and deformity of the toe-nails, the hand, however, escaping anything approaching a condition of sclerodactyly often observed. Some of the joints, especially the right knee, had become fixed by the contracted, and in places ulcerated, skin. There was little pain or nerve disturbance. The action of the skin had led in places to epidermal accumulations of an offensive nature. The general appearance of the case left no difficulty in the way of diagnosis, but the unilateral distribution and want of general diffusion over the parts affected approximated the condition somewhat to the circumscribed form described by Addison. A tendency to improvement had certainly set in, and this had been helped by good hospital management and injections of "fibrolysin" some months ago. A return home, however, retarded the progress. Further trial of "fibrolysin," with galvanism and tonic régime, was advocated.

Circinate Secondary Syphilides.

Dr. Douglas Heath showed a girl, aged 22, suffering from syphilis. The case was shown on account of the very large amount of circinate eruption present. The circles were very abundant on all parts of the face, but seemed especially prominent over the temples and the angles of the mouth. On the extensor surfaces of both forearms symmetrically were large, dusky red circular areas of a much more pronounced type. These were closely set and intermingled, and were desquamating to a slight degree. At the back of the neck similar prominent circinate syphilides were present. A fading roseola was present on the trunk, and the hair had fallen to a marked degree. A primary sore had been noticed on the vulva a month ago, but it was probable that circinate eruption corresponded with a later period of syphilis than this would seem to indicate. No large papular syphilides that had not gone on to ring formation could be seen.

Erythema Circinatum.

Dr. Douglas Heath also showed a woman, aged 24, in whom a very marked circinate erythema had developed five days previously without evident cause. The eruption covered the whole of the trunk, and was especially prominent on the lower half of the abdomen when the patient was shown. It was also present in a less degree on the upper arms and around the knees or the extensor surfaces. In places where the rash had disappeared the skin was stained purple red in colour, and a few recent

crops of eruption could be seen here and there on this pigmented area. The patient's temperature had been slightly raised since the eruption started, but there were no gastro-internal symptoms, and there had been no pains in the joints. The eruption only itched slightly when it first appeared.

A Case of Trigeminal Palsy.

Dr. SAWYER showed a woman, aged 31, suffering from a peculiar form of trigeminal palsy on the right side. She had received a blow on the face in October, 1910, which made her unconscious for about half an hour. She received no medical treatment until December 2nd, when she came to the General Hospital, complaining that she could not open her mouth. It was found that this was due to spasm of the gustatory muscles. On examination it was found that the first and second divisions of the fifth nerve were paralysed, as shown by the usual anaesthesia, and that the motor branch only of the third division was affected. The temporal muscles, the masseter and external pterygoid muscles were paralysed on the right side. It was suggested that the condition was due to a fracture of the middle fossa, and that the fracture involved the sphenoidal fissure, the foramen rotundum, and possibly the foramen ovale. The sensory portion of the third division of the fifth nerve was very large, while the motor branch was extremely slender, lying underneath the Gasserian ganglion and against the dura mater; it seemed possible for the motor branch to be torn without any injury to the stout sensory parts of the third division taking place.

Radiograms of Injuries to Carpal Bones.

Mr. NUTHALL read a brief note on the anterior dislocation of the semilunar bone, and illustrated the condition by skiagrams of three cases. In two of the subjects the injury resulted from forcible hyperextension of the hand at the wrist-joint. The patients presented themselves for treatment six, ten, and fourteen weeks respectively after the accident, with symptoms of weakness, pain, and complete loss of flexion of the wrist. Under the anterior wrist-crease was a bony mass, tender on pressure, over which the flexor tendons moved with perceptible lack of freedom. The skiagrams disclosed the semilunar bone lying in a plane completely in front of the carpus, and with its transverse axis rotated into the axis of the limb, and its concavity facing towards the tendons and skin. One patient, six weeks after the accident, made such good progress under treatment by massage and passive movements that he declined operation. Two submitted to operation—removal of the displaced bone—and of these one was now at work, with a good but not perfect result, while the other still had considerable stiffness in the wrist and fingers, but was able to follow his employment as a gardener.

Ulcer of the Stomach.

Mr. BILLINGTON showed a specimen of ulcer of the stomach obtained by operation from a woman aged 27, who for five years previously had suffered from severe indigestion, and had vomited blood on two occasions. For several months before operation it was evident that she was becoming increasingly anaemic, while careful inquiry elicited the fact that melaena was going on. The ulcer, which was the size of a florin, was situated on the posterior wall of the stomach near the lesser curvature, and about 3 in. from the cardiac orifice. It was incised through an opening in the transverse mesocolon, an elliptical incision in the long axis of the stomach being employed. This was sewn up without gastro-enterostomy being performed. The patient made an uninterrupted recovery, and six months later was in excellent health.

THE French Congress of Scientific Societies will be held this year at Caen. Among the subjects of medical interest proposed for discussion are: Tuberculosis and the means of lessening contagion; sanatoriums at high altitudes and by the sea; methods of disinfection against contagious diseases, and the results obtained in towns, rural districts, and establishments where disinfection is carried out; the water supply of towns; the pollution of underground collections of water; the part played by insects, and especially the common fly, in the spread of contagious diseases; hygiene of school children.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

Friday, February 3rd, 1911.

Dr. H. MACNAUGHTON-JONES, President of the Section, in the Chair.

INDICATIONS FOR, AND TECHNIQUE OF, CAESAREAN SECTION AND ITS ALTERNATIVES, IN WOMEN WITH CONTRACTED PELVES, WHO HAVE BEEN LONG IN LABOUR AND EXPOSED TO SEPTIC INFECTION.

THE debate on Dr. Routh's paper (see BRITISH MEDICAL JOURNAL, March 4th, p. 496) was resumed.

Dr. MAXWELL said he had done only four cases of Caesarean section, but he had been fortunate enough to have had opportunities of studying the methods and technique of many of the senior members who had taken part in the debate. That experience had certainly impressed him with the necessity of exercising the greatest care in investigating these cases from the point of view of prior sepsis. As a resident medical officer in Queen Charlotte's Hospital in 1903 Dr. Maxwell recollected that the routine inquiry made in these "suspect" cases embraced not only the nature of the previous obstetric manipulations, but even went further in the attempt to find out who had performed them. All present had probably seen Caesarean section performed in cases where there was reason to regard the patient as more certainly exposed to infection than those even of Dr. Routh's "suspect" group. Before accepting these cases as evidence that all precautions were unnecessary one would have to investigate the puerperal morbidity most carefully. Some of these cases caused the very greatest anxiety. There was the gravest ileus in some; in others the belly wound suppurated; again, sometimes localized abscesses pointed and burst by the abdominal wound or per vaginam. Now, the border line between the cases that eventually recovered after grave morbidity and those that died of a rapid peritonitis in two or three days was such a very narrow one that the speaker held that all serious puerperal morbidity should be frankly accepted as evidence that embryotomy or some modification of technique should have been carried out rather than the classical Caesarean section. Dr. Maxwell had great difficulty in convincing himself that in any case where forceps had been applied the amniotic cavity had escaped infection. It was important that they should be quite clear on the distinction between infection of the amniotic contents and infection of the patient. In those circumstances he felt that any attempt to get rid of the infected liquor amnii, or at least to dilute its toxicity, was a rational procedure. The technique was perfectly easy in his case; a soft pewter douche tube was passed up to the fundus past the fetal head, and normal saline, temperature 105° F., was allowed to flow for five minutes. The uterus was then eventrated, and incised at the fundus after most carefully packing off of the peritoneal cavity. Subsequently, after closing of the uterus, towels and rubber gloves were changed, and the belly sewn up with fresh instruments. The method obviously had its limitations. As regards the ethical aspect of embryotomy, Dr. Maxwell said he would have no hesitation, in the presence of clinical signs of sepsis, of sacrificing a living fetus *in utero*.

Mrs. SCHARLIEB said she had but a small number of Caesarean sections to her credit. All would admit that there was great difficulty in knowing which cases were infected or suspected of infection, and which were not. With regard to bacteriology, all must hope that in future science would so advance that the results could be obtained more certainly and more quickly than hitherto. It was the duty of those who undertook those cases to have a bacteriological examination made of the liquor amnii and of any discharge which might be present, not only with the view of guiding the treatment at the moment, but also in order to furnish a vaccine, which might prove of inestimable value in the subsequent treatment. Dr. Maxwell's suggestion of interamnial investigation seemed a very good one, but where there had been repeated examinations, not only was the amnial cavity

infected, but in many instances the cervix and the lower portion of the uterus were damaged. If so, no disinfection of the amnial cavity and no ordinary Caesarean section would avail to save the patient from infection. In such a case she thought the wisest plan was to perform abdominal panhysterectomy, leaving a sufficient opening in the vaginal vault through which drainage could be carried out, either by iodoform gauze or by bismuth gauze. If in spite of the delay which had occurred the child was alive, the uterus could be eventrated, the abdominal wound temporarily closed behind it, and ample packing done with sterilized towelling to prevent, if possible, infected liquor amnii from entering the abdominal cavity. An incision should be made to permit of the removal of the fetus, in whatever position seemed to be most convenient at the moment, carefully avoiding the placental site. As soon as the child was removed and the incision in the uterus closed, panhysterectomy could be performed, an operation which under the circumstances presented remarkably little difficulty. She could not believe that in any infected cases either extraperitoneal hysterectomy, or symphysiotomy, or any variety of pubiotomy, was advisable. The latter two had a very limited field of application in any case, and in the infected cases surely it must be difficult, if not impossible, to avoid infection. The establishment of a hystero-abdominal fistula might be a refuge for the destitute, but it was not a method which would be elected. She thought all would prefer the absolute removal of the whole of the infected organ by panhysterectomy and general drainage. No doubt all detested the idea of doing craniotomy on a living child; still sometimes it was a regrettable necessity. There was no reason in sacrificing two lives when one sufficed. The younger members of the profession should be encouraged to do abdominal work, so that they would not be taken at a disadvantage in a critical case, and could give the patient the benefit of panhysterectomy or a conservative Caesarean section, as might be indicated in cases with narrow pelves, so narrow that there was no hope of delivery *per vias naturales*. She thought it a pity not to say a word in favour of the old-fashioned English treatment of inducing premature labour. In early days in India, when she had no skilled chloroformist or skilled assistant, she would have failed to save many lives of mothers and infants if she had not been able to bring about induction. She had never found it dangerous to the mother, nor had she seen a woman even ill in consequence of the induction of labour. A considerable percentage of children lived after it, especially if it were possible to postpone the operation of induction until the child was not only technically viable, but sufficiently developed to have a really good chance of life.

Sir FRANCIS CHAMPNEYS said he intended to refer to only one point. In the abstract Dr. Routh referred to "the inevitable abrasions of the cervix during the operation" (of craniotomy). Now craniotomy consisted in perforation of the fetal head, and he did not see why this should inflict any "inevitable abrasions." Dr. Routh probably included in the term "craniotomy" the further operation of extraction, but the two were separate operations, and extraction need not always follow perforation. The first perforation for contracted pelvis which he ever saw was left to Nature, and expulsion followed without difficulty. He believed that the danger of "craniotomy" was essentially the danger of extraction, and this might be considerable. In any future statistics of craniotomy he thought that the cases should be divided into two classes —those in which extraction did not, and those in which it did follow perforation. It was obvious that natural expulsion was not likely to occur when the conjugate was less than a certain size—say 3 in., or at least 2¾ in.—the labour being at full time, and the child of average size. As regarded the ethics of craniotomy, the perforation of a living child was, of course, a most painful and unpleasant operation, but it ought to be less painful than allowing the mother of a family to die for want of it.

Dr. A. J. WALLACE said that for some years he had been endeavouring, in cases of contracted pelvis, to bring about a condition of affairs whereby a second and subsequent Caesarean section might be made by an incision direct from the skin into the uterus without opening the peritoneal cavity. The method he adopted was to sew the parietal peritoneum to the wall of the uterus. In one case he had done extraperitoneal Caesarean section by that method. In the first "suspect" case referred to the abdominal incision was made, and the parietal peritoneum was sewn to the wall of the uterus by a suture which was duplicated, two rows of overlapping sutures all round, the resultant opening being 6 in. in length and 3 in. wide. A vertical incision was made into the uterus, and, after the extraction of a living child, a drainage tube was placed through the abdominal wall, down to the uterus. From the first there was a foul purulent discharge through the drainage tube; the patient's pulse was rapid, and on the third day the wound showed signs of opening up. When opened up it was found that universal sloughing was going on. In course of time a slough came away from the uterus. The patient ultimately recovered, and the utero-parietal fistula closed up. The second case was dealt with in a similar way. The patient came after labour had been in progress thirty-six hours, and forceps had been repeatedly used. A purulent discharge occurred from the two drainage tubes used. The uterine wall did not slough. He inoculated the wound with the lactic acid bacillus, which he thought was of use in such cases. Two days afterwards all the offensive purulent discharge had ceased. That was his usual experience with the lactic acid bacillus when inoculated into offensive wounds. He considered that in the first case certainly, and perhaps in the second also, life had been saved by the preliminary use of the utero-parietal suture.

Dr. GRIFFITH wished to point out that, while it was obviously the duty of all who had the opportunity of investigating their "suspect" cases to do so in the most accurate and scientific manner possible, it would still, in the emergencies of practice, be necessary for the great body of practitioners to depend on their experience and powers of observation rather than on scientific methods of bacteriology for the determination of the method of treatment most suitable in the case before them, especially as even the most experienced bacteriologists were often unable to state more than in general terms the exact nature and virulence of the organism present. The same criticism, he submitted, applied to the custom of most writers to apply methods involving mathematical accuracy in the measurements of the pelvis by which to determine the treatment applicable to the various degrees of contraction. He would ask Dr. Routh, did he or any one present determine his treatment by those methods except in the rare cases of excessive contraction? Was he not guided as much by other important factors? They could neither rely on their exact measurement of the conjugate, nor even on their calculation of the duration of pregnancy. With regard to the term "craniotomy," which, like so many terms in obstetrics, was so loosely used, he would point out that it was not the perforation that endangered the mother's life, but the method of extraction which followed it. He had only had one bad septic case on which to perform Caesarean section; in this there was in addition a mass of fibroids for which he performed hysterectomy after delivering the child. That patient died, the only fatal case in his series.

Dr. A. W. RUSSELL said he had now had 33 cases of Caesarean section—intraperitoneal and extraperitoneal—with no maternal death; 29 of these appeared in Dr. Routh's list. In 3 of them he attempted extraperitoneal section, and in 1 since that list was completed. His cases were probably unique in regard to the frequency of contracted pelvis as an indication for the operation. It had been the only indication for operation, except in one case in which it was a last resort owing to repeated eclamptic attacks some time before the full term of pregnancy had been reached. The patient was in such a bad condition that if he had tried to induce labour in the usual way the convulsions might have recurred, and her life would almost certainly have been lost. In that case he had consulted with his colleague, Dr. Munro Kerr, and had the benefit of his assistance at the operation. Both mother and child survived, although the latter at first weighed under 3½ lb. In regarding cases as "suspect," he had not considered the previous history, or attempts with forceps, so much as the state of the mother at the time and the vitality of the child. But he knew the risks of handling. He had a great dislike of the barbarous procedure of craniotomy. He laid great stress on the disinfection of the vagina by copious douching, and scrubbing of the parts, which he personally supervised. The

disinfection of the surgeon and his assistants was also important; they wore rubber gloves, armlets, and masks. He had never eventrated the uterus before incising it, but carefully packed it round with large swabs. He had everything ready beforehand, in order to get through quickly. He thought an operator would be justified in doing panhysterectomy in such a case, but he had risked the conservative operation. With regard to extraperitoneal Caesarean section, as he was one of the very few who up to the present had done the operation several times in this country, he might be allowed to refer to its scope in the kind of cases under discussion. It was now admitted that it was not freely available for actually septic cases, as was expected by its original promoters. There was a class of cases, however, in which the classical intraperitoneal operation would seldom be considered—namely, the cases that were advanced in labour with the presenting part bulging forwards above the symphysis and the lower uterine segment stretched. In undoubted cases of infection that were otherwise favourable he would certainly say there was a place for extraperitoneal section, either draining into the vagina or keeping the wound temporarily open by sterile gauze packing till the danger of spreading infection was over.

Dr. LEATHEM said that when Dr. Routh first spoke to him of the possibility of ascertaining the presence or absence of pathogenic organisms by means of examination of films, he (the speaker) expressed the opinion that a fairly reliable report could be given as to the presence of certain pyogenetic cocci provided they were present in considerable numbers. The question as to the identity of bacilli was more difficult, and when a Gram-negative bacillus was present, and was of about the same size as *Bacillus coli*, one would have to regard it as being in all likelihood the *Bacillus coli*. The number of swabbings he had examined was of course far too small to enable conclusions to be formed as to the reliability of this attempt at diagnosis as to whether or not the amniotic cavity had been infected. But he did think that the conclusions he arrived at by the examination of films were sufficiently justified by the results of the subsequent cultural examinations to encourage further investigation in this direction. With regard to the use of antistreptococcic serum, he did not think much good was likely to result from washing out the uterus and vagina with antistreptococcic serum. The way in which this serum acted was a little doubtful. *In vitro*, at all events, it had no bacteriolytic action if it had any in the uterus. If staphylococci or streptococci were seen in films, he would assume that they were pathogenic, not saprophytic. He admitted that the attempt to recognize pathogenic organisms in films made direct from swabbings would probably come to this—that the presence in the films of Gram-positive cocci, unless they were obviously sarcinae, or the presence of Gram-negative bacilli, would lead to the idea that dangerous infection was present, and that this view might in some cases lead to measures that were unnecessary. Still the error would be on the side of safety. Professor Bumm made use of this method of examining films made direct from the amniotic fluid and appeared to find it satisfactory.

Dr. C. HUBERT ROBERTS said that at Queen Charlotte's Hospital from time to time they got the most serious cases of obstructed labour, cases in which every possible attempt at delivery had already been made outside, and where, clinically at all events, infection seemed very evident. In such cases the child was dead or dying, and craniotomy or embryotomy was performed, yet such women often went through a normal or almost normal puerperium. He contended that if Caesarean section were done on such cases it would have added a grave risk to the mother and would not have saved the child. Now, as to the question of Caesarean hysterectomy in infected cases, he admitted, with others, that it was the ideal operation, but he did not know how to make a sufficiently correct diagnosis in order to say that "this is a case for preservation of the uterus, or this is a case for complete removal." Even bacteriologists seemed to admit that they could not help much; moreover, in desperate cases there was little time for delay. Though he joined issue with those who thought that complete removal of a septic uterus after Caesarean section was the best operation in certain cases and under suitable conditions, he felt disposed to support those who treated the infected stump extraperitoneally after removal of the uterine body by some modified method of Porro's operation (the uterus being eventrated before opening), and especially if the mother was *in extremis*. He had treated one such case by this method, after Caesarean section, in which there was a partial rupture of the uterus. This patient recovered, though her convalescence was slow. The most important point of all was to foresee obstructed labour, partly by timely and frequent examination of women in their pregnancies, and, better still, by the proper tuition of students and midwives, so that they might recognize pelvic contraction or malpresentation before labour came on, or before the hopeless obstruction occurred. Finally, he was one of those who thought that the operations of symphysiotomy and pubiotomy had only a very limited field in obstetrics, and in really septic cases he would not perform them at all.

Dr. EDEN had twice performed craniotomy on the living child in a septic uterus, and he expected to have to do it again some day. Despite the stigmatization by the Rotunda Hospital authorities, in Dublin, of craniotomy as a criminal offence, he did not modify his opinion. In abdominal surgery one was dealing day by day with areas of infection through transperitoneal operations, and by careful technique they were got through without disaster. Surely the same should be true of the cases now under discussion. He would eventrate the uterus first, carefully packing off the abdominal cavity above and below with sterilized towels and swabs, including the edges of the abdominal incision. It would then be possible to open the uterus, evacuate the contents, and sew it up again, without anything coming into contact with the peritoneal cavity at all. And if the surface of the uterus were irrigated before returning it to the abdomen, he did not see why there should be peritoneal infection. If from extreme pelvic contraction in a septic case craniotomy was impracticable, and Caesarean section had to be done, the only safe plan was to remove the uterus. The danger of extraperitoneal Caesarean section was that an infected uterus was left.

Dr. S. CAMERON thought that very frequently it was impossible to state whether a case was infected or not. Even if a case were infected there was no reason why Caesarean section should not be performed. In cases where repeated examinations had been made, or where forceps had been applied, his technique was briefly as follows: After the abdominal cavity had been opened the uterus was dragged into the wound. Large swabs were then introduced into the cavity, and the lower portion of the uterus was encircled with towels so that the fluid might not escape into the peritoneal cavity. When the uterus had been emptied a large swab was thrust into the uterine cavity and the edges of the uterine incision were covered with gauze. Supravaginal hysterectomy was then performed. In future he intended to introduce the lactic acid bacillus into the vagina when dealing with septic cases, as he had obtained fairly satisfactory results in gonorrhoeal cases from this method of treatment. Supravaginal hysterectomy should be preferred to panhysterectomy, and he questioned if the introduction of gauze into the vagina in order to obtain drainage was of any benefit whatsoever. He did not feel inclined to perform extraperitoneal Caesarean section, because it took a longer time to perform. In conclusion, he said it was his intention to continue to perform Caesarean section in preference to craniotomy in all cases where the mother was not moribund and the child was alive, as he was strongly of opinion that the application of forceps by a practitioner, or even the presence of organisms in the liquor amnii, did not justify the destruction of a living child.

The PRESIDENT (Dr. Macnaughton-Jones) said the main questions on which this discussion hinged were, to his mind, sepsis—a living or dead child—uselessness or inadvisability of trying recognized obstetrical methods—the child's life as against the mother's. He had barely time to say a few words embracing these four points. He disliked the term "suspect" introduced into obstetrics. The mere fact of examinations having been made, or an attempt at delivery having failed, did not in the vast majority of cases, unless reckless or wholly unwarrantable practice had been pursued, justify the conclusion

that a woman was threatened either with sapraemia or septicaemia. The various opinions expressed by the bacteriologists who had spoken only showed that they were not yet on sufficiently firm ground to rely on bacteriological examination to determine this. Were they not rather inclined to make too great a bogey of this "suspect" sepsis in the face of their modern aseptic and antiseptic possibilities? He said this, regarding it both from the point of treatment and operation, no matter what method of delivery was adopted. As to the all-important point, accepting the presence of a local sapraemia or a commencing systemic sepsis, and that the case was then seen for the first time, at any stage of a labour in which delivery by any other than operative methods was impossible, they were at once brought face to face with the remaining question—was the child living or dead, and was the performance of Caesarean section, or one of its alternatives, the right course to pursue? He presumed that they were all fairly agreed that if the child was dead, whether under "suspect" or recognizable septic conditions, cephalotripsy or craniotomy was the correct one. Then arose the question of a living child. Personally, in view of modern asepsis and improved technique, he would favour, in those cases in which the nature and degree of the septic invasion did not contraindicate it, the patient being surrounded by the precautions of a hospital technique—Caesarean section. In cases where the only alternative was hysterectomy, and a choice had to be made between the supravaginal operation and panhysterectomy, *caeteris paribus*, he would prefer panhysterectomy, though here again the decision must depend on the local condition. As regards consideration for the child's life, as against that of the mother, when forced to make a choice he would unhesitatingly move in the direction of the mother's safety rather than that of the child.

DR. AMAND ROUTH, in reply, said that at Queen Charlotte's Hospital the saving of fetal life by the adoption of Caesarean section and late induction of premature labour instead of craniotomy and early induction, in the last ten years, as compared with the preceding ten years, represented 36 per cent. Yet craniotomy could not be entirely dispensed with, especially in general practice, where prompt bacteriological assistance and skilled technique in abdominal surgery might not be available. In spite of the fact that some speakers had said that bacteriology could not yet be an efficient guide as to the presence and significance of the infective germs, he had great hopes that in the future such help would be forthcoming, and that further improvement in differential staining and other methods would enable the obstetrician to know the extent of his patient's infection, and guide him as to the operation he should perform, and possibly also assist him by in some way strengthening the resistance of the patient. He hoped obstetricians would help by having the liquor amnii examined bacteriologically in all "suspect cases," and at the same time make a note of the operation performed and its results in every case. In time the evidence thus collected would enable the treatment of these cases to be put on a real scientific basis.

SECTION OF MEDICINE.

Tuesday, February 28th, 1911.

Dr. J. MITCHELL BRUCE, President, in the Chair.

Low Blood Pressure.

DR. WILFRED EDGECOMBE read a paper based on extensive observations on a healthy person the subject of persistently low blood pressure. He described the normal rise following the taking of food and exercise, also rises after mental exertion, worry, and excitement, and the more enduring rise following removal to a high altitude. He described the effect of alcohol in this subject as a lowering of the normal daily rise, even going as far as a fall in the record for the day; the rise after tea and coffee and caffeine, so much after afternoon tea as 8 mm., lasting from half an hour to an hour; and the definite rise after smoking, particularly obvious in the early morning. In regard to drugs, the ordinary cardiac tonics had but little effect on it; a negative result was obtained with calcium salts and strychnine, and a trifling rise with moderate doses of digitalis. Pituitary extract gave an enduring rise of 7 mm. Glycogen and ernutin gave negative results. Of hydrotherapeutic measures three alone—the Vichy douche, the aërated Nauheim bath, and the needle bath—permanently raised the pressure. To raise a low blood pressure was apparently a much more difficult thing than to lower an abnormally high blood pressure.

DR. C. O. HAWTHORNE thought the active agents showed their influence by increasing the force of the left ventricle. He held that so-called blood pressure was more than a question of maximum force with which the artery was distended. Thus digitalis, which was known to have a powerful influence on the cardiac contractions, judged by the records of the sphygmomanometer, was inactive. The length of time the pressure endured and the fashion in which it declined were of equal if not greater importance. He would combine the method with that of sphygmographic tracings.

DR. NATHAN RAW referred to the effect of high altitude and calcium chloride on blood pressure.

DR. F. H. HUMPHRIS referred to the effect of static brush discharges in raising blood pressure.

DR. O. K. WILLIAMSON described the influence on blood pressure of high altitudes, especially as observed on himself in the Alps. It was chiefly a matter of a slight rise. In the case of another subject there also was very little effect after climbing the Finsteraarhorn. In his own case, moreover, tea produced a fall in blood pressure. Thus varying effects were obtained in different persons, as was the case in regard to taking food.

DR. R. HUTCHISON said there were important sources of fallacy in the method, and thought the diastolic blood pressure was of greater moment. Idiosyncrasy was also a source of fallacy.

DR. F. W. PRICE said that recent work at the Mount Vernon Hospital showed no obvious rise in blood pressure after even large doses of digitalis.

DR. G. OLIVER thought observations of systolic blood pressure were very misleading, and the mean or diastolic pressure of much greater value.

After remarks by the PRESIDENT, Dr. EDGECOMBE replied.

PATHOLOGICAL SECTION.

Tuesday, February 21st, 1911.

Dr. F. W. MOTT, F.R.S., President, in the Chair.

Asphyxia under Chloroform.

DR. A. G. LEVY related an elaborate series of experiments upon the effects of inducing partial and complete asphyxia in animals whilst under the influence of chloroform and of ether. The asphyxia was not obstructive, but produced by allowing the animals to breathe the same air till its oxygen was exhausted. The experiments were done exclusively on cats, and on this account the results might need modification before being applied to man. The author's conclusion was that asphyxia told with greater effect under ether than under chloroform, and that (in cats at least) an intercurrent asphyxia was not particularly destructive.

Tumours of Small Intestine associated with Carcinoma of Larynx.

DR. B. H. WEDD showed an example of tumours of the small intestine associated with laryngeal cancer. The intestinal tumours were not metastatic and differed in structure from the growth in the larynx, which was a squamous-celled carcinoma; their multiplicity was of interest.

Uterine Tumours in Rabbits.

DR. A. E. BOYCOTT described tumours in four rabbits; their growth was connected with pregnancy, and in structure they suggested a decidual origin.

The Action of Pro-thyroid and Anti-thyroid Preparations.

MR. W. EDMUNDS recorded some work on the action of pro-thyroid and anti-thyroid preparations. He had previously shown that the administration of thyroideum siccum caused death in rats, with changes in the adrenals. This knowledge was used to test the value of the milk of thyroidless goats in the treatment of chronic thyroid

poisoning. As a control the milk of a normal goat was used. It was found that the rats died sooner when fed on thyroidless milk than with normal. It was pointed out that this could be explained by the operation of thyroidectomy having caused a tendency to myxoedema, which might give rise to an antimyxoedemic body which would be a pro-thyroid body, and aid the thyroideum siccum in causing death.

Lamarckism and Callosities.

Mr. S. G. SHATTOCK observed that it was a maxim in the investigation of biological problems that they were best approached by a study of their simplest expressions. The question whether acquired characters were transmitted was one still under discussion. It was necessary to define what was meant by acquisition. The acquirement of secondary or external sexual characters at puberty was not, for example, a proper instance of it; these were delayed characters only. The term must be limited to an acquisition which was under control, so that when the circumstances which would call forth such acquisitions were prevented from acting, the acquisition would not arise. This was essentially Lamarck's position. And Weismann's category comprised precisely such characters: Overgrowth of parts from increased use; atrophy from diminished use; changes due to climatic influence; mutilation. In regard to the non-transmission of the negative characters resulting from disuse and mutilation, Paley (*Natural Theology*) had long ago written: "The mammae of the male have not vanished by inusitation, nec curtorum per multa saecula Judaeorum propagini deest praeputium." Even in the famous case of those blind among the deep sea fish from the *Challenger* dredgings, it was unproven that the transmitted want of the eyes had resulted from an atrophy resulting from disuse; for such fish were possessed of a phosphorescent organ in the neighbourhood of the eye, the growth of which was probably, the speaker suggested, correlated with the disappearance of the eye—as the gills of the tadpole disappear with the growth of the lungs. In regard to overgrowth from increased use, the author took the case of the well-known callosities on the sternum, knee, carpus, and other parts of the camel. No simpler example could be given of overgrowth due to increased exercise. The callosities were present on every camel, whether bred in a menagerie or under natural conditions. Were they present at birth? The author had critically examined into this from material especially obtained from Cairo. In the full-term fetus there was absolutely no trace of want of hair, or any epidermal thickening in a single one of the proper positions. The character, simple as it was, was not transmitted, in spite of its universal and long-continued acquirement; all that was transmitted was the capacity to acquire it, should the external conditions come into play. The gluteal callosities in the baboon were of a more ambiguous kind. These were present at birth, but in a certain sense only. The author had studied these histologically in the Guinea baboon, and in Macacus. The skin was here quite hairless at birth, but it was particularly thin, and devoid of papillae and glands; the epidermis over it was no thicker than on the piliferous skin around. The thickness of the epidermis of the palm and sole of the monkey at birth was due to the abundant development of papillae, the intervals between which were filled with it; these parts were essentially tactile areas, adapted in the first place for arboreal progression. The hairless gluteal areas were not so. By use the epidermis over them became notably thickened, yet this being a proper acquisition from use, was not transmitted. The author provisionally suggested that the thinly skinned hairless districts were related to cutaneous scent gland areas, of which they might be vestiges. Such cutaneous glandular areas were largely found amongst antelopes, though not gluteal; in some cases the glandular patch was piliferous, in others it was bare; and in yet a third set there was a thinly skinned smooth, naked area, the glandular zone being around this. Such a disposition suggested that the hairless area in the monkeys (of the Old World) was related to a peripheral glandular zone; and that the area in question was not essentially due to the commonly supposed cause, namely, the sitting attitude adopted by apes; the hairs were not worn down as in the camel; they were congenitally absent.

MEDICAL SOCIETY OF LONDON.

PATHOLOGICAL MEETING.

Monday, February 27th, 1911.

Mr. CHARTERS J. SYMONDS, President, in the Chair.

Exhibits.

THE following were among the exhibits:—Dr. F. J. POYNTON: Specimens of cases of acute leukaemia and acute carditis. Mr. A. E. BARKER: (*a*) Primary carcinoma of the caecum with a secondary nodule in the sigmoid flexure—? implantation from the upper caecal growth; (*b*) carcinoma of the lower rectum, with another smaller cancerous ulcer 4 or 5 in. higher up—? extension along the submucous lymphatics in the sense of Sampson Handley's infection; (*c*) extensive tubercle of colon (hepatic flexure) removed by operation. Dr. ERNEST H. SHAW: (*a*) Carcinoma of the kidney; (*b*) carcinoma of the oesophagus and liver; (*c*) carcinoma of the oesophagus involving the trachea; (*d*) chronic nephritis in undeveloped organ; (*e*) calcareous degeneration of aortic valve with two segments, atheroma of coronary arteries. Dr. PARKES WEBER: Specimens from a case illustrating the occurrence of prolonged or fatal syncopal attacks in elderly persons. Dr. R. C. JEWESBURY: (*a*) Mitral and tricuspid stenosis; (*b*) dilatation of the oesophagus. Mr. CHARTERS SYMONDS: Specimens of gangrene of the gall bladder. Dr. H. M. TURNBULL: Cases of mesaortitis, apparently an isolated syphilitic manifestation, in father and daughter; mesaortitis in a child of 7; ectopic chorion-epithelioma. Mr. T. B. LAYTON: (*a*) Ununited fracture of the tibia; (*b*) fibrous union of a fracture of the femur, with ankylosis of the knee-joint; (*c*) osteo-myelitis of the tibia, with epithelioma of skin. Mr. MAYNARD HEATH: (*a*) Cyst of the upper extremity of the femur; (*b*) a post-anal tumour—? teratoma. Mr. T. P. LEGG: The right kidney, containing a large branched calculus, removed from the bony pelvis by operation; patient aged 18 years. And cases by Dr. B. SPILSBURY.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

Liverpool, Friday, February 17th, 1911.

Dr. HELLIER, President, in the Chair.

Exhibits.

DR. BRIGGS (Liverpool) showed several obstetrical mannikins which he claimed rendered the teaching of operative midwifery both easier and more satisfactory. Dr. HELLIER (Leeds) showed an intramural myoma removed from the abdominal wall of a woman, aged 25, in her second pregnancy. The tumour had grown with great rapidity, and showed some signs of degeneration. The patient had done well and had not miscarried. Dr. GEMMELL (Liverpool) showed (*a*) A specimen of an ovarian abscess simulating a fibroid which had been noticed during a pregnancy some seven months before the operation. In the course of separating adhesions during the operation the abscess, which appeared to be intimately connected with the uterus, and as large as a five months pregnancy, was ruptured, and so panhysterectomy was performed. It was only on subsequent dissection that the tumour was found to be ovarian in origin; (*b*) a specimen showing multiple fibroids of the uterus in one of which red degeneration had taken place. The operation (subtotal hysterectomy) was undertaken on account of severe haemorrhage.

Persistent Metrorrhagia.

Dr. GRIMSDALE (Liverpool) described a case of persistent metrorrhagia in a woman of 35. The patient had been curetted on two occasions, but with only very temporary relief, so after consultation the uterus and one ovary, in which there was a blood cyst, were removed.

The Use of "Endometritis" and Similar Words.

Dr. W. E. FOTHERGILL (Manchester) read a paper dealing with the proper use of the word *Endometritis* in teaching gynaecology. If this could be settled, definition in the

use of other words like "metritis" and "ovaritis" would naturally follow. Endometritis certainly implied the inflammatory reaction of the tissues to irritation by septic, gonorrhoeal, tuberculous, and other micro-organisms. The word was, in fact, the name of a pathological process. But it was constantly used as a name for various clinical states or diseases which were not caused by infective or other irritants. Amongst the conditions often called "endometritis" were pelvic hyperaemia, hyperplasia of the endometrium, subinvolution, the menorrhagia of puberty, the menorrhagia of the menopause, and even menorrhagia secondary to various general diseases. Dr. Fothergill considered, in the first place, that the teaching of gynaecology would gain in simplicity and accuracy if the use of words ending in "itis" were confined to cases in which there was clinical evidence in the form of history, symptoms, or signs, that infection had played a part in the causation of the condition. Further, he thought it would be of advantage if words ending in "itis" were used only for pathological processes which occur in the course of infective disease, and were not used as if they were the names of diseases with independent and separate existence.

MEDICAL SOCIETY OF LIVERPOOL.

AT a meeting held on February 9th, Dr. T. R. BRADSHAW, President, in the chair, Dr. H. H. CLARKE read a paper on the use of *Tuberculin in the treatment of phthisis*. He gave a short account of the plan of treatment he adopted. When dealing with patients in the hospital he gave a course for forty-two days, starting with $\frac{1}{5000}$ c.cm. of the original solution of the bacillary emulsion as prepared by Meister, Lucius and Brüning. For the first ten days the dose was doubled each day, thus $\frac{1}{50}$ c.cm. was soon reached; this on the 12th, 20th, 30th, and 42nd days was again doubled. If the patient had to be treated in the out-patient department he gave a weekly dose of $\frac{1}{500}$ c.cm. He considered the oral method as useful as the hypodermic method of administration. He concluded that tuberculin was of use in the treatment of phthisis. Dr. E. W. HOPE, the medical officer of health, read a paper on the *Local administrative control of tuberculosis*. He pointed out the great difficulties which had confronted the early attempts to deal with the prevention of tuberculosis due to the neglect in bygone years of sanitary principles, and to the large amount of unskilled and casual labour which had existed in Liverpool. He emphasized the view that efficient methods must begin at the control of the recognized predisposing causes of tuberculosis, and showed by charts how the adoption of these methods had in Liverpool been crowned with success. When insanitary areas were first condemned the mortality from phthisis was 4 per 1,000; in the last two years it had fallen to 1.9 per 1,000. Dr. Hope exhibited models of the new and the old workmen's dwellings. Speaking of sanatoriums, he said that these must fail as great preventive means, whilst they had other uses. He gave an account of the sources of information at the disposal of the health authorities for the recognition and subsequent amelioration of tuberculosis, and considered that the various authorities now engaged in this work could with advantage be unified. He advocated a wise and economical the support of the dependents whilst the bread-winner was undergoing treatment, and considered that accommodation for advanced cases and possibly the compulsory detention of dangerous cases were required. He estimated that the disappearance of phthisis would mean a saving to the nation of one-eleventh part of the total cost of pauperism—that is, of £1,000,000 per annum. There was compulsory notification in the case of pauper consumptives, and he thought this rule should be extended to all those who sought relief in any medical charity. Voluntary notification had worked well in Liverpool. Notwithstanding that the population had increased by 115,000 from 1895 to 1910 the total number of deaths last year from phthisis was 3,056 less than in 1895. Dr. Hope then gave an account of the German system of insurance for sickness, which he said deserved earnest attention. Dr. PERMEWAN said that the radical cause of consumption was to be found in the housing conditions of the people, and he paid a high tribute to the work that Dr. Hope had done in connexion with this problem. In view of the great prevalence of tuberculosis amongst barmen, Dr. PERMEWAN urged the necessity of the power of inspection by the health authorities. This they had not at present. The lighting and ventilation of public-houses was very often deficient. Dr. NATHAN RAW favoured the prospect of unification of the authorities dealing with tuberculosis. At the present time there were about 800 persons with phthisis, mostly in an advanced stage, under the care of the Poor Law, and thus isolated. He was in favour of compulsory removal and detention of advanced cases. He looked forward to the time when the whole problem of the control of tuberculosis would be undertaken by the health authorities in each district. Dr. BUCHAN, M.O.H. of St. Helens, urged the necessity of compulsory notification. Dr. MOFFAT of Bolton said that in that town the poor people were recognizing the infectivity of tuberculosis, and compelling members of households suspected of suffering from that disease to attend the medical charities.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

AT a meeting held on February 16th, Mr. A. CUFF, President, in the chair, Dr. JOHN ROBERTSON (Birmingham) read a paper on *The Present Position of Infection*, in which he stated that there had probably been no greater change in the whole range of medicine than that which had taken place in their views in regard to the nature of infection and the methods by which it was conveyed from one person to another. They now recognized that from 60 to 70 per cent. of all deaths were due to processes which were known as infective, while, of the remaining ill-defined causes, many were of similar origin. There was still a group of infective diseases, of which measles and small-pox were types, in regard to which their knowledge was very incomplete, as they did not know how the infection was given off from the infected person. They had, therefore, invented as an explanation the theory of aërial convection. Clinical and bacteriological investigation had, however, given reliable information as to how the infection in most of the other diseases was conveyed either directly or indirectly. Careful observations in fever hospitals and in private practice had demonstrated beyond doubt that in the majority of diseases the infection was transported from one to another directly or indirectly, and that passage through the air did not play the part which it was at one time thought to play. While this was so in practice, it could be demonstrated that in the act of loud talking particles of saliva were ejected from the mouth and carried in the air to distances of 30 or 40 feet. It was therefore probable that this projection of infection should be taken into consideration in dealing with cases where coughing or sneezing was present, such as occurs in measles, whooping-cough, and tuberculosis of the lung. No two diseases could be regarded as alike in the way in which the infection was spread. Carrier cases were now a recognized source of infection. Dr. Robertson thought they played a much less important part in practice than theoretically they should play. The problem of infection spread by flies, mosquitos, fleas, etc., was also dealt with. Dr. ARTHUR HALL showed a case of combined posterior and lateral sclerosis, *Ataxic paraplegia*, in a youth of 23. The symptoms began eighteen months ago, and consisted of marked ataxia with weakness in the legs and pain in the knees. The gait was very ataxic and was associated with some jerkiness of movement and slight tremors at times. The eyes were normal in every way; also the head and neck and upper limbs. Romberg's sign was well marked; patellar jerks much exaggerated; toe extension on both sides; no true ankle clonus; no tenderness; no definite alteration of sensation; sphincters normal; no family history of similar cases; no syphilis; no etiological factor discovered.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.

AT a meeting held on February 10th, Dr. W. G. WILLOUGHBY, President, in the chair, Lieutenant-Colonel C. H. MELVILLE, R.A.M.C., in a paper on the *Sanitary Service of the Territorial Forces*, spoke mainly of the duties of those officers who are on the *à la suite* list, and

whose services would be available on mobilization. After stating that in the Territorial Force regulations it was laid down that on mobilization these officers would be appointed, under arrangements made by the administrative medical officers in whose divisional areas they held appointments, to perform sanitary duties within their districts, should these happen to be occupied by troops, he sketched roughly the exact place which the administrative medical officer occupied in the general system of army administration from the point of view of prevention of disease. In addition to duties connected with the removal of sick and wounded, that officer was the responsible sanitary adviser of the general officer commanding on all sanitary matters, and his duties consisted, broadly speaking, in making recommendations regarding precautionary and remedial measures relating to billets, camps, garrisons, hospitals, transports, dress, duties, etc., conducive to the preservation of health and to the mitigation and prevention of disease in the army and civil population. He was provided with a sanitary officer, whose duty it was to supervise the details of those recommendations, and to assist his chief with expert advice concerning them. Colonel Melville laid stress upon the fact that the duties of these officers were only advisory, and that the ultimate decision as to the occupancy of camping grounds, etc., was in the hands of the officer commanding the force, no matter how small or large it might be. The *à la suite* officers could render invaluable assistance to the administrative medical officer by helping to maintain that touch between the military and civil systems of sanitation which was of such great importance. If he was the local medical officer of health he was the only person who could furnish authoritative information with regard to the prevalence of disease among the civil population. He could also be of enormous assistance in collecting sanitary intelligence. This would have reference to the habitation of troops either in buildings or in camping grounds, to water supplies, roads, etc. Suitable camping grounds should be inspected and their location identified on the map. They should be described as to their acreage, whether grass, heather, or open heath, or if ever under cultivation, whether level or of a gentle slope, and whether liable to floods. The quantity and quality of the water supply should be ascertained. The water supply of the district as a whole should be described, and the officer should make himself familiar with the position of good and bad supplies. This collection of what might be called sanitary intelligence would fill a serious gap in our knowledge, and any officer on the *à la suite* list who would set about collecting it as regarded his own district would be doing a useful piece of work and would render the State good service. After remarks by Mr. F. E. FREMANTLE and Dr. EDWARD SERGEANT, Dr. J. R. KAYE urged the importance of educating the rank-and-file in sanitary matters. The art of hygiene stood as high as the art of strategy, and in every campaign disease had been the master. Dr. CALDWELL SMITH considered that the members of the *à la suite* service should be obliged to attend camp, and should receive the pay of their rank. Mr. H. STOTT said that in Sussex lectures had been given on sanitary matters to the non-commissioned officers, and he considered they had done a great deal of good. Dr. HERBERT JONES emphasized the importance of every *à la suite* officer recording in detail particulars of camping grounds and water supplies in his district. Professor W. R SMITH and Dr. TUBB-THOMAS also spoke.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

AT a meeting held on February 23rd a demonstration of *Kinematographic microscopy* was given by Dr. BURNET of Leamington. The films exhibited showed *Trypanosoma brucei*, *Trypanosoma lewisi*, *Spirochaeta gallinarum*, *Spirochaeta pallida*, the organisms of relapsing fever, and spirochaetes of Vincent. The demonstration was a most interesting one, and a large audience listened with the greatest interest to the explanation of the various points shown by the films given by Dr. Burnet. A hearty vote of thanks to the demonstrator concluded the proceedings.

Reviews.

THERAPEUTICS AND PHARMACOLOGY.

PROFESSOR ROBIN of Paris, in the preface to his book, entitled, *Thérapeutique usuelle du praticien*,[1] states that his object has been to provide a condensed survey of the application of medical practice to the practical relief and cure of disease. He says: "I am a believer in therapeutics, and what I have seen in the course of my career enables me to assert that scepticism is an avowal of ignorance much more than an admission of impotence; further, my most cherished ambition is to inspire my hearers with the faith which I possess." In his introductory lecture he expresses the belief that the insufficiency of active and well-defined therapeutic treatment is not the least potent cause of the encroachment of surgery on certain fields of practice which ought, save with rare exceptions, to remain the territory of physicians. Of the many subjects with which Dr. Robin deals, none perhaps will appeal more forcibly to the busy practitioner than the chapters on dyspepsia. To an admittedly difficult subject he brings a clear and precise judgement which enables him to formulate a simple and yet comprehensive classification under which may be marshalled all the endless varieties of this troublesome and ubiquitous disorder. On the important questions of diagnosis and treatment, details are set forth which, when thoroughly grasped, will enable dyspeptic conditions to be dealt with on a well-ordered working plan, and to substitute for mere empiricism a system of all-round management resting on reasonable and comprehensive conclusions as to the etiological and pathological factors which have contributed to physiological incompetence. In the treatment of gastric ulcer, Dr. Robin lays special emphasis upon the value of absolute rest for the stomach for a period of not less than nine or ten days, so as to allow cicatrization to occur. During this time he advocates the complete suspension of food and drink by the mouth, and forbids even the giving of water. Nutrition can, he says, be sufficiently maintained by nutrient enemata. He follows this by a dietary confined entirely to milk, given in progressively increasing amounts for a month, and thereafter he gradually adds to the daily diet until eventually a full regimen is reached. He urgently protests against the present-day tendency towards treating all cases of appendicitis surgically, and although he fully admits that circumstances occur in which operation becomes essential, he pleads for some return to the ancient belief in the efficacy of other measures. He advocates, contrary to many authorities, the immediate use of purgatives in doses sufficient to produce an active effect, and he prefers to all others calomel or castor oil. He pays a striking tribute to the value of gelatine injections in the treatment of aortic aneurysm, as recommended by Lancereaux and Paulesco, and declares that more favourable results are obtained by this than by any other plan of treatment in many cases of this formidable and distressing condition. He gives definite rules for carrying out the method, and states that in favourable cases, after the third injection, the pulsation of the aneurysm tends to diminish. The functional disorders due to the compression improve after the sixth injection, and the volume of the sac itself to diminish after the tenth injection. From thirty to forty injections are required to produce a lasting and satisfactory effect. The modern treatment of neuralgic conditions by injections of alcohol does not meet with his approval. He says of them that, though they frequently produce temporary alleviation of the pain, recurrence is the rule and permanent cure the exception. The injections, moreover, cause some suffering, and are not exempt from the possibility of undesirable consequences. He suggests as a more safe and also a more reliable alternative, injections of glycerophosphate of soda. These points have been taken at random to indicate the scope and versatility of this book. It is replete with valuable suggestions, moderately stated, and sufficiently detailed to enable every practitioner of medicine to repeat in his practice the experiences of

[1] *Thérapeutique usuelle du praticien*. By Albert Robin, Professor of Clinical Therapeutics in the Faculty of Medicine of Paris, Member of the Academy of Medicine. Paris: Vigot Frères. 1910. (Med. 8vo, pp. 532. Fr. 8.)

the author. It may be thought that many of the formulae quoted are examples of polypharmacy, but reasons, it will be found, are given for the presence of each ingredient, and many readers will be converted to the older view, which nowadays is somewhat disdainfully regarded, that a judicious combination of drugs in compatible amalgamation and selected to meet the several indications which a given patient presents, is often more efficacious than the prescription of the one remedy which the prominent symptom of the pathological condition most urgently suggests. Dr. Robin's book deserves to become popular, and will amply repay practical men for the time spent over its perusal.

e congratulate Professor CUSHNY on the appearance of the fifth edition of his well-known textbook on *Pharmacology and Therapeutics*,[2] Besides being a mine of information both to student and expert, it is written with lucidity and directness. Professor Cushny says in the preface that the amount and importance of the researches published in recent years testify to the growing interest in the action of drugs and their application, and to the abandonment of the nihilistic attitude towards therapeutics which was at one time so discouraging. He says also that there is a notable ebb in the flood of new remedies, which threatened to submerge medicine at the end of the last century, and that the use of many of the minor older remedies is also declining; he has, therefore, been able to curtail the discussion of many of them, and some have been entirely discarded from his book. With such an introduction as this, the reader may be encouraged to feel that he has in Professor Cushny a trustworthy guide to the use of drugs. Before many pages are read he will find the timely warning not to expect in disease the same or as much effect as pharmacological experiment would indicate as possible, for the reactions on infected may be different from those on normal tissues; moreover, there is what may be called the idiosyncrasy of the lower animals to be thought of, with the result that it is possible that a drug which in a lower type produces one form of reaction may in man produce a different effect. The volume is divided into six parts. In the first those organic substances are discussed which are characterized chiefly by their local action; it is shown, for instance, as a result of the teaching of Pawlow that bitters have a real place in medicine in that they improve the psychic desire for food. The second part deals with substances characterized chiefly by their action after absorption and includes the members of the alcohol-chloroform group, strychnine, atropine, quinine, the antipyretics such as the acetanilide and antipyrine series, and salicin and its allies the salicylates. We commend to the reader Professor Cushny's description of digitalis and its therapeutic uses, for very pointed directions are given not only as to when to use it but when not to use it, and if the reader rather gains the impression that the restrictions laid down swamp the opportunities for its use, he must feel that the newer studies of Dr. James Mackenzie have added so much to the knowledge of cardiac disease, that it is easier now to tell beforehand when digitalis may or may not be employed. As Professor Cushny does not set out to write his book as an expert pathologist, the student must read his own knowledge of this subject between the lines of this textbook, and will understand better why it is that digitalis used in therapeutic doses is unable to produce those improvements in the blood pressure which clinical observations show are so desirable. The third section of the book deals with combinations of the alkalis, alkaline earths, acids, and allied bodies, and due attention is paid to the developments which have shown that in this group in particular the pharmacological effects are as much if not more due to the physical properties of the particular drug as to the chemical; in other words, the "ion" theory has received at Professor Cushny's hands a full and appreciative attention. The fourth part includes a discussion of the heavy metals, and iron comes in for a full share of the author's attention. Its use in chlorosis is still maintained by Professor Cushny. No doubt the work of Professor Haldane and his followers upon the content of the iron in the blood of chlorotics is well known to the author, and possibly he is aware of further researches which may have tended to upset their contention that in this malady there is no reduction of iron in the body, and to prove that what does exist is an increase of the wateriness of the plasma. The fifth part includes a discussion on ferments, secretions, and toxalbumins, and the last section deals with menstrua and mechanical remedies. Despite the advantages accruing from the relegation of pharmacology to the non-clinical worker, by which he is given more time for the study of the subject, we cannot close the book without feeling how great would be the advantage to medicine if such an authority as Professor Cushny could be provided with access to the wards of a hospital, so that his profound pharmacological knowledge should receive more of the clinical "salt," which could not fail to render it the more serviceable.

[2] *Pharmacology and Therapeutics, or the Action of Drugs.* By Arthur R. Cushny, M.A., M.D., F.R.S., Professor of Pharmacology in the University of London. Fifth edition. London: J. and A. Churchill. 1910. (Royal 8vo, pp. 744; illustrated with 61 figures in the text. 15s.)

ALLBUTT AND ROLLESTON'S SYSTEM.

THE study of nervous disease has received great attention from British workers for at least three generations; we can, indeed, congratulate ourselves that much of the good work upon this intricate and fascinating branch of medicine has been done by our countrymen. The logical mind seeks out the mazy paths of the central nervous system with a keen pleasure, for in no other organ or system of organs are the teachings of histology and physiology so accurately illustrated by the effects of disease. In the volume before us—the seventh volume of Allbutt and Rolleston's *System of Medicine*, comprising diseases of the muscles, the trophoneuroses, diseases of the nerves, vertebral column, and spinal cord[3]—a glance at the list of contributors leads us to expect valuable monographs, an anticipation which is fulfilled. The editors have been fortunate in retaining the services of many who wrote for the former editions, whilst several new articles are contributed by well known workers on the subjects they describe. Diseases of the brain and mental diseases are not included, but will appear in the next volume.

Dr. F. E. Batten is responsible for more than half the section on diseases of muscles, having written the article on myositis, and revised the article on myopathy, written by the late Dr. C. E. Beevor. The article last named gives a concise account of the myopathies, pointing out the relationships of the various forms. As the number of carefully recorded cases grows more links between the types are recognized; hence what might appear to the casual reader of neurological journals a heterogeneous collection of cases has been shown gradually to present evidence of a common though obscure congenital cause. Dr. Farquhar Buzzard writes an interesting account of myasthenia gravis with a full illustrated description of the morbid anatomy. No satisfactory hypothesis of the causation of the disease has been propounded. Dr. Michell Clarke describes family periodic paralysis, and Dr. Hale White and Dr. James Collier myatonia congenita and amyatonia congenita respectively. Dr. Turney discusses the trophoneuroses judicially, including the trophoedemas and neurotrophic affections of the bones and joints. His classification of the trophoedemas is based upon what physiological knowledge we have of the transudation of lymph. Sir Thomas Barlow's accounts of Raynaud's disease and of erythromelalgia will be read with much pleasure; they are full and informing, but at the same time interesting, and the reader leaves them with a clear impression of the present state of knowledge of these conditions.

The diseases of the nervous system are introduced by a new article of 116 pages from the pen of Dr. Mott, entitled "An Introduction to Neuropathology." An account of the development of the neuron theory is given first, including the recent researches of Ross Hamilton, who has observed the actual outgrowth of the axis cylinder from embryonic spinal cord cells. The view that regeneration of a divided nerve takes place by a growth downwards of the proximal end of the severed axis cylinder is fully supported by the newer evidence; the sheath cells of the distal portion appear to guide the direction of the new fibre by a chemiotactic attraction for the outgrowing nerve process.

[3] *A System of Medicine.* By Many Writers. Edited by Sir Clifford Allbutt and H. D. Rolleston. Vol. VII. Diseases of the Muscles, the Trophoneuroses, Diseases of the Nerves, Vertebral Column, and Spinal Cord. London: Macmillan and Co. 1910. (Pp. 900, 99 illustrations and 7 plates. 25s. net.)

The mode of connexion of neurons with one another has been in dispute from the foundation of the neuron concept. Dr. Mott reviews Held's contention that during the process of growth the protoplasm of related neurons fuses, but concludes that, although in certain invertebrates there is a "fibrillar continuum" through several ganglion cells, yet in more highly developed animals there is neuronic independence, which is associated with the property of conveying impulses one way only in any neuronic system, although the axis-cylinder processes are capable of transmitting in each direction. The neuraxon of a psychomotor cell is not connected with one only, but "with a number of spinal motor neurons forming the final common path for a multitude of different voluntary muscular activities." Hereditary predisposition is placed first among the causes of nervous disease; in a healthy nervous system the balance of reserve is high, but in the neuropathic individual there may exist systems of neurons with an inherited low power of storage of energy or an instability of bio-chemical substance. The most important extrinsic cause of nervous disease is the presence in the blood of abnormal constituents, as in uraemia, alcoholism, lead poisoning, syphilis, and other bacterial infections. The results of experimental work upon the nervous system are discussed at length, and much interesting matter is put in such a way as to bring out most clearly its bearing upon human disease. Dr. Mott's article will long be of value to all who wish either to form or renew their conceptions of the basis of modern neurology. Professor Sherrington, who contributes a physiological section on tremor, tendon phenomenon, and spasm, makes claims upon the close attention of the reader, who, however, is rewarded by enjoying a rare accuracy of thought. Dr. Sharkey writes on the same subject from the clinical and pathological aspect. The chapter on medical ophthalmology is another general article by means of which the practitioner will be able to look up any point on which he may desire information more quickly than by searching through the descriptions of several diseases. Affections of the muscles of the eye and the ophthalmoscopic changes of disease are described in a manner for which the name of Sir William Gowers is a sufficient guarantee. Drs. G. A. Gibson and R. A. Fleming are responsible for the account of diseases of the spinal nerves, Dr. Judson Bury for that of peripheral neuritis. Dr. Head, who has done much to define the pathology of herpes zoster, writes an able article upon it, demonstrating clearly the analogy, now well recognized, between that disease and anterior poliomyelitis. Dr. Head also writes on trigeminal neuralgia, recording the success of the operation for removal of the Gasserian ganglion in the treatment of the major form; the method of injection of alcohol into the nerve is described, but no opinion is expressed upon its value as compared with operation, doubtless because a sufficient trial of it has not yet been made. Dr. Aldren Turner describes the diseases of the cranial nerves, and Sir Victor Horsley those of the vertebral column. For compression of the cord from caries of the spine laminectomy is recommended in all cases in which improvement has not begun after extension for about two months, unless vasomotor paralysis of the paretic parts be present, as shown by redness or swelling, in which case the spinal cord may be inferred to be the seat of diffuse myelitis, and beyond the possibility of amelioration. Dr. Starr, of New York, an authority who will be read with much interest, writes on anterior poliomyelitis, relating the many occasions on which the disease has occurred in epidemic form, the infective agent probably being a filterable and ultramicroscopic virus; the section on treatment is full of sound practical advice.

Enough has been said to show the important nature of the various chapters; if further witness were needed, we could point to those on myelitis, by Drs. Frederick Taylor and F. Buzzard; on tabes dorsalis, by Dr. Ormerod; on disseminated sclerosis, by Dr. Risien Russell; on caisson disease, by Dr. Leonard Hill; and other articles, from the pens of Drs. Edwin Bramwell, Wilfred Harris, and Gordon Holmes. In comprehensiveness, in accuracy, and in authority this volume is equal to its predecessors. It has not the atmosphere of the textbook, but a live interest which we attribute to the fact that so much of the work described in it is new work, written at first hand. The text is illustrated by plates, photographs, and tables. We congratulate the editors once again upon the continued high standard of the work; this book is one which every practitioner may be proud to have upon his shelves, and will be wise to consult frequently.

THE PHYSIOLOGY OF REPRODUCTION.

PROFESSOR SCHÄFER contributes a short but pithy preface to Dr. MARSHALL'S book entitled *The Physiology of Reproduction*.[4] He says: "This is the first time that the physiology of the organs of reproduction has been presented in a complete form." Professor Schäfer, if any one, should know if a similar account has been published before. We do not know of anything so comprehensive. This work has nothing in common with some recent books on sexual life, in which a little science is mixed up with a good deal of pornography. This book is pure science. "Sexual life," in the sense of the books to which we have unfavourably referred above, means the ways in which the life, health, and character of men and women are influenced by sexual feeling. This work enters not into such questions. Dr. Marshall describes the various ways in which in different organisms, from protozoa upwards, the gametes are brought into contact.

The subject is important from the point of view not only of the gynaecologist but of breeders of animals. The author has not trusted entirely to his own judgement, which on many points covered in so vast a field must be that of an amateur, but on many matters he has consulted the best experts available to him. In the earlier chapters of the work—on the breeding season and the oestrous cycle—a great many facts concerning the reproductive function in the lower animals are brought together. They illustrate Herbert Spencer's great generalization as to the inverse relation between complexity of structure and function—that is, high development—and reproductive energy.

Next we have a chapter on the changes in the non-pregnant uterus during the oestrous cycle. The author points out, what is not generally recognized, that menstruation in the human female does not correspond to "heat" in the lower animals, but to the "pro-oestrum." It has been shown long ago that the week following menstruation is that in which conception is most apt to take place, and this is the week that corresponds to the oestrum in the lower animals. The next section is on the changes in the ovary. Miss Jane Lane-Claypon's work on ovigenesis is summarized. Observations are quoted which go to show that in some animals at least the maturation of the ovum and the extrusion of the polar bodies takes place in the ovary before the rupture of the Graaffian follicle, so that it appears to be conditioned by the mere act of copulation, and does not require the presence of the sperm cell. Dr. Marshall accepts the view of Bischoff as to the origin of the corpus luteum: that it is formed by the hypertrophy of the epithelial cells of the undischarged Graaffian follicle. Then follows an account, traced from the lower forms of life to the higher, of spermatogenesis, insemination, and fertilization. Many instances of parthenogenesis are referred to, and it is noted that parthenogenetic offspring are usually imperfect. The next chapter, on the biochemistry of reproduction, though full and carefully written, shows how much has yet to be learnt about these things. Then follows an account of the internal secretions of the sexual organs, which is of much clinical interest and importance to the operating surgeon and the general practitioner.

No less than 134 pages are devoted to the placenta. The account given of the formation and development of this organ in different classes of mammals—the origin of the syncytium, the decidua, the allantois, and other structures, is more complete than any other that we know of in the English language. The subject is very difficult and appeals to the histologist rather than to the practitioner. The last six chapters of the book deal with matters of interest not only to the general practitioner, but to every thinking man, namely, the changes in the maternal

[4] *The Physiology of Reproduction*. By Francis H. A. Marshall, M.A.Cantab., D.Sc.Edin., Fellow of Christ's College, Cambridge, and University Lecturer in Agricultural Physiology. With a preface by Professor E. A. Schäfer, Sc.D., LL.D., F.R.S., and contributions by William Cramer, Ph.D., D.Sc., and James Lochhead, M.A., M.D., B.Sc., F.R.C.S.Edin. London: Longmans, Green and Co. (Med. 8vo, pp. 723. 21s.)

organism during pregnancy, parturition, lactation, fertility; the determination of sex, the duration of life, and the cause of death. The one which treats of the determination of sex is headed with a quotation from Bacon, "What was a question once is a question still," which indicates the result of the inquiry. Many theories have been propounded to account for the determination of sex; and each that has deserved serious attention has been supported by some evidence; but so far each theory that has been apparently supported by a set of facts has not been confirmed by further facts disclosed, when inquiry has been pushed. The author's final conclusion about this is that "it seems certain that sex is not determined by the same factors in all cases, neither is it determined at the same period of development." Many of the facts enumerated point to the conclusion that the sex of the future organism is determined in different cases by different factors and at different stages of development—either in the unfertilized gamete, or at the moment of fertilization, or in the early embryo.

In the final chapter, on the duration of life and the cause of death, the author remarks that "many instances are on record of extraordinary longevity among men and women, but perhaps the most trustworthy is the famous case of Thomas Parr, described by Harvey: 'He dyed after he had outlived nine princes, in the tenth year of the tenth of them at the age of one hundred and fifty-two years and nine months.'" That is, he was supposed to have been born in 1515, in the reign of Henry VIII, and died in 1668-9, in the reign of Charles II. There was no registration of births in those days; there is no account, as far as we know, of Harvey having made any attempt to test the accuracy of old Parr's memory during his life, or sift his statements in any way. The statement about the "nine princes" has no bearing upon his age, unless we know who the princes were. If "princes" is taken as equivalent to "sovereigns of England," we can only make eight of them, even by including Oliver and Richard Cromwell (which would be, we suppose, the first time that Richard Cromwell was called a "prince"); and two of the sovereigns were queens. It seems to us that Thomas Parr was a very old man with confused and cloudy memories, whose exact age is by no means to be taken as a historical fact. In the chapter on fertility, Herbert Spencer's great generalization, that individualization and genesis vary inversely, is again discussed, and illustrations of it are quoted. To show how thoroughly up-to-date the work is, we may mention the effect of x rays and radium in producing sterility, as one of the matters included.

We might fill many columns with discussions of questions raised in this volume. We will only say that it is the greatest work on the subject in the English language. We hope it may not be the last word on the subject, but it is certainly the latest. Every person who takes an interest in biology will find it most instructive and interesting.

DISEASES OF THE NOSE, THROAT, AND EAR.

THE general tenor of Dr. VICTOR LANGE'S essays on diseases of the ear and nose[5] is indicated in the first chapter which deals with the relations of general to special medicine. The author quotes with approval the words of Lipowski, who, in his guide to the treatment of internal diseases, expresses himself as follows: "But in the main point, that is in the development of the art of healing, he (the medical student) is seriously neglected. So it comes about that the young physician—*quoad internam medicinam*—begins his professional life as a therapeutical nihilist. While, dazzled by the bright immediate results of surgery and its surrounding sphere, he renders homage to the bold action he looks down slightingly upon the sphere of energy of internal medicine." The tendency of the writer, obviously a practitioner of prolonged experience, is to give a slight check to the over-readiness to resort to operation and to encourage a little more hopefulness in the use of conservative treatment. He advises that the specialist should be in the first instance a practitioner of general medicine and that he should not specialize too soon, in order that his view of medicine should be as wide as possible, and that he should never forget that "all hangs together." He dwells on the importance of attention to the naso-pharynx, and gives in detail the local, the general, and the balneological treatment. He does not attribute any great importance to the adenoid physiognomy and insists that enuresis is in extremely few cases attributable to the presence of adenoid vegetations. A middle course is advocated in regard to acute inflammation in the middle ear, but leaning towards promptness in paracentesis. He is not favourable to the insufflation of powders, but has a good word to say for the use of instillations which, in his opinion, have the power of liquefying the secretions. He is hostile to the knife in furuncles of the external meatus, and calls attention to the occurrence of genuine intermittent otalgia which is to be treated as a pure neuralgia. A special chapter is devoted to the formation of crusts and fissures in the anterior nares; for the fissures he recommends the use of the sharp spoon. The chapter on acute angina is extremely interesting, the author looking upon oedema of the uvula as suggesting the onset of a peritonsillar rather than a tonsillar abscess. The little work is extremely readable and all the more because it is interspersed with scraps of proverbial philosophy culled from Goethe's *Faust* and other sources which enliven the dissertations and help to drive the arguments home. There are many hints which the modern aspirant in otology and rhinology may wisely take to heart.

The praise we felt justified in giving in the BRITISH MEDICAL JOURNAL of January 16th, 1904, and November 3rd, 1906, to the first and second editions of Dr. ZARNIKO'S treatise on diseases of the nose and naso-pharynx is still more amply due to the third.[6] The work now reaches 758 pages, but the compact first edition which appeared in 1903 contained in 313 pages a full account of rhinology as at that time existing. Condensation was then perhaps studied to the detriment of the literary style, and though it made it possible for the seeker for the dry facts to find them with great rapidity, the expansion practised in the second and the present edition makes the reading of the book easier and pleasanter, even if it weighs a little more in the hand. Two chapters have been added, and the whole work has been carefully revised. One of the new chapters deals with the significance of the pharyngeal tonsil, the author coming, however, to the conclusion, after a consideration of all the views concerning the functions of this and other tonsils, that there is still great uncertainty. He reviews the various suggestions made, as that the tonsil material simply forms a functionless packing (*indifferentes Füllgewebe*) for certain recesses in the tract, or that it gives rise to an important internal secretion; again, that the tonsils help in the formation of the blood, being exactly analogous to cervical lymphatic glands. The author has evidently some sympathy with Brieger's view that they act as a protective mechanism in clearing away injurious substances of all kinds, both mechanically and through their bactericidal power. The objections to this theory are also set forth in deference to those who look upon the tonsil as offering mainly a means of entrance for infective material, giving rise to various metastatic diseases, among which have been included acute articular rheumatism, muscular rheumatism, erythema nodosum, purpura rheumatica, ulcerative endocarditis, pyaemia, latent tuberculosis of the cervical glands, and epidemic cerebro-spinal meningitis. The other new chapter deals with foreign bodies and concretions in the accessory sinuses. We cannot lay aside the book without emphasizing the great assistance afforded to the reader by the care bestowed upon the references, which are repeated whenever necessary, thus avoiding the use of the somewhat irritating "loc. cit." with which the pages of so many books bristle. When a figure is referred to, the page on which it is to be found is given at the same time. The references, which in the first edition numbered 399, have now reached the total of 2,431. It will be observed that the names of English writers are not so frequent as might have been expected, but in the preface the author requests those whose writings have not appeared in German medical journals to supply him with reprints

[5] *Klinische Mitteilungen aus dem Gebiete der Ohren- und Nasenkrankheiten.* Für Studierende und Aerzte. Von Dr. Victor Lange, Kopenhagen. With a portrait of the late Dr. Max Schaeffer of Bremen. Berlin: S. Karger. 1910. (Sup. roy. 8vo, pp. 126. M. 3.60.)

[6] *Die Krankheiten der Nase und des Nasenrachen, mit besonderer Berücksichtigung der rhinologischen Propädeutik.* Von Dr. Karl Zarniko, Hamburg. Third Edition. Berlin: S. Karger. 1910. (Sup. roy. 8vo, pp. 758; 166 illustrations and 5 plates. M.18.)

of the same; he thus indicates his recognition of this hiatus and his desire to fill it.

In 1895 we had the pleasure of commenting favourably on the first edition of Professor GERBER'S valuable monograph on syphilis of the nose, throat, and ear,[7] and it is with equal gratification that we can speak of this the second enlarged and revised edition. The increase in knowledge is typified by the greater size of the book, which now contains 143 as against 74 pages. Possibly the author, by issuing his first edition, gave impetus to the study of the subject, and at all events it was well calculated to awaken interest in the minutiæ of the disease as affecting the parts here dealt with. It is scarcely necessary to emphasize the necessity for early detection of the disease in parts in which the results of neglect may be disfigurement, disturbance of functions, and even loss of life. In these regions, again, the symptoms are often so slight and so little characteristic that it is only through a knowledge of the lesions which may occur, and by a skilled and purposive physical examination that we are enabled to detect and to control them. The author cites a case of syphilis of the maxillary antrum, and refers to the absence of reference to such cases in the literature of the subject. Syphilis occulta tertiaria of the nasopharynx is, as before, excellently described (p. 30), and tellingly illustrated by two coloured plates of the posterior rhinoscopic appearances. The student cannot fail to be impressed by them. The picture of diphtheroid tonsillar chancre is very typical, and the danger of its acquisition by nurses tasting the food from the spoon or bottle of a syphilitic infant is well illustrated (p. 38). The present edition has been increased by an excellent section on the disease as it affects the ear, and the description of syphilitic catarrh of the middle ear (p. 101) merits particular attention. The nerve-deafness occurring during the secondary period is considered by the author to be due to an affection of the labyrinth rather than of the nerve trunk (p. 104). Due reference is made to the spirochaete, to Wassermann's reaction, and to atoxyl, all, of course, unknown at the time of publication of the first edition. The chapter on therapeutics is much enlarged from its former exiguous dimensions, and contains in a condensed form a great amount of helpful instruction. It will no doubt be still further extended in future editions. The coloured drawings have been increased in number, and some of the old ones have been replaced. The bibliography is extensive, but it would seem from it that contributions to the subject from British pens are singularly few, at least of recent years. The perusal of this work will encourage the methodical study of a department of work in which early diagnosis and treatment are fruitful in brilliant results.

DISEASES OF THE HEART.

SEVERAL excellent and indeed almost epoch-making books on heart disease have appeared during the last few years, the most notable being, perhaps, Dr. Mackenzie's. We have received from America another first-rate volume on *Diseases of the Heart and Aorta*,[8] by Dr. A. D. HIRSCHFELDER, and welcome it as a valuable addition to the extensive literature of cardio-vascular disease. It is divided into four parts. The first deals with general considerations and methods of diagnosis, and includes much-needed descriptions of the modern instruments (sphygmomanometers, viscosimeters, sphygmographs, electro-cardiograms) used in investigating the activity of the heart, and of the alterations in the cardiac rhythm that may be met with. Part II deals with diseased conditions due to diffuse pathological processes—heart-strain, hypertrophy, myocarditis, arterio-sclerosis, and the like. Part III, 260 pages in length, describes diseased conditions due to localized lesions, such as endocarditis, valvular disease, congenital morbus cordis, the Adams-Stokes syndrome, pericarditis, cardiac trauma, and aneurysm. In Part IV, on the functional diseases without anatomical lesion, are included paroxysmal tachycardia, thyroid heart, and the cardiac neuroses; the book ends with an adequate index. The author has made excellent use of the literature of the subject, and the numerous lists of references scattered throughout the volume give convenient indications of the most important and most recent papers that may be consulted. At the same time the clinical aspects of heart disease are thoroughly discussed, while prognosis and treatment are also adequately dealt with. The illustrations are for the most part original, well chosen, and well reproduced; they, with the many diagrams and tracings, are one of the most attractive features of the volume, and do much to render a difficult subject more readily comprehensible. The book may be cordially recommended to advanced students and medical practitioners in search of a well-written and scientific textbook on diseases of the heart and aorta. It is well printed, and appears to contain no more misprints than are almost inevitable in so large a volume. Place might, perhaps, be found in a second edition to mention Curschmann's important paper on pericardial effusion, which would seem to have escaped Dr. Hirschfelder's notice.

A MEDICAL NOVEL.

Doctor Grey[9] is a realistic story of the life of an ordinary general medical practitioner told by one who has evidently had a personal experience of such life. There is a good deal of similarity both in material and its treatment between this book and the author's first novel, *The Serpent and the Cross;* but though the earlier work had more varied incidents, the later is distinctly stronger in many respects. Arthur Grey is first met with as a house-physician nearing the end of his term of office, somewhat sated with the hospital life and eager to settle down to a practice of his own. Next we get Grey as an assistant to a firm of practitioners with a large number of club and parish patients. Here he saw something of the seamy side of club practice, and had to follow the method of his principals, which was simply to avoid as far as possible making any serious mistakes. Next comes Grey's search for a practice in which he could settle down for himself. His first visit was to a country practice which he found on arrival had already been sold, but the principal gave him an insight into what is meant by the professional loneliness of a country practitioner who has no opposition, "with no one to swap ideas with and no one to keep him him up to the mark." His next venture was with a bibulous doctor in a country town where there were only two doctors, "one of whom had the Church connexion and the other doctored the chapel people." At last he found a practice at Wonstone, a manufacturing town near Birmingham, and from this point onwards we get a series of vivid pictures of life among the poorest working classes in a manufacturing town. Among the persons with whom he struck up a friendship were a curate and a journalist of socialistic ideas, and we are treated to interesting discussions between the three friends as to the conditions of the lower working classes, the ways of the Church in dealing with them, and the ideals of the socialist. Speaking of the medical service for the working classes, the journalist says that it is anything but satisfactory; and when Grey suggests that poor people can get a doctor by paying a penny a week, the journalist retorts:

> "But what sort of doctoring do people get for their pennies You know perfectly well you can only make your club work pay by scamping it."
>
> "Yes," replies Grey, "club work only pays at all well when a man has so many club patients that he can look after none of them properly. Poor devils! it is bad for clubbers to be really ill. Loads of them go undiagnosed, and so are never properly treated."
>
> "Just so," said the journalist; "if you run your practice as a business the patients suffer; if you do your work with a keen regard to ethics it is hard on the doctor."

Later the journalist treats Grey to some opinions which are worth quoting:

> You know perfectly well that most people think a great deal more of a doctor's manners than they do of his professional skill. . . . As long as people are content to leave doctoring to private enterprise they must expect to be doctored inadequately. . . . The present system is hopelessly ridiculous,

[7] *Die Syphilis der Nase, des Halses und des Ohres.* By Dr. P. H Gerber, University Professor and Director of the Royal University Polyclinic for Throat and Nose Diseases at Königsberg. Second altered and enlarged edition. Berlin: S. Karger. 1910. (Sup. roy. 8vo, pp. 144' 4 plates, 1 illustration. M. 6.)

[8] *Diseases of the Heart and Aorta.* By A. D. Hirschfelder, M.D., Associate in Medicine, Johns Hopkins University, Baltimore, with an introductory note by L. F. Barker, M.D., LL.D. Philadelphia and London: J. B. Lippincott Co. (Roy. 8vo. pp. 655, with 329 illustrations. Price 25s. net.)

[9] *Doctor Grey.* By Stephen Andrew, author of *The Serpent and the Cross.* London: Greening and Co., Limited. (6s.)

and I cannot imagine why you doctors have not kicked against it long ago. . . . One of these days it will be seen how absurd it is to leave the care of the sick to individuals who are struggling to make a living. Then, perhaps, it will occur to those in authority that it may be a good thing to make the care of the sick a national affair. It may even dawn upon them that to make the medical profession a branch of the Civil Service might be useful all round.

Whether we agree or not with these sentiments, the author contrives, in spite of all the drawbacks of the life of a general practitioner, to throw a certain glamour of attractiveness over Grey's life. He has none of the nauseous sentiment of the vicarious philanthropist, but simply a quiet sense of the dignity and privilege of being able to render skilled and self-sacrificing service for the poorer classes. In this the author has seized on what is the great compensation in general practice, though it may perhaps be the source of the weakness of the profession when it has to fight for its rights. The whole book is refreshing reading for the general practitioner.

GYNAECOLOGY.

WITH reference to the review of Dr. Blair Bell's *Principles of Gynaecology*, published in the JOURNAL of February 25th, page 445, we have received a letter from the author headed as follows, and containing the subjoined passages:

When is a Review not a Review?

No doubt reviewers would answer the question that heads this letter by saying, "when it does not please the author." The impartial man, however, will say, "when it does not review the contents of the book concerned."

For a perfectly deliberate intention not to say a single good word for a book commend me to your recent review of my *Principles of Gynaecology*. Almost the whole review is taken up with a depreciation of my method of arrangement, which has met with universal approbation elsewhere. The objections hinted at are clearly due to encapsuled orthodoxy and a want of appreciation on the part of the reviewer of the pathological significance of certain "gynaecological conditions" such as haematocele, which in my book is *not* considered as a disease, but as an accident that occurs in connexion with ectopic pregnancy, etc., under which it is sufficiently discussed.

The points in favour of the pathological as opposed to the old anatomical method of arrangement (noted by others) are ignored in your review, though mention might at least have been made of the unquestionable advantage of a full and complete discussion of syphilis and gonorrhoea in one place instead of under scattered "topographical" divisions.

Of the two "omissions" mentioned, one thing is not omitted at all, as your reviewer will find if he will remember that "Mittelschmerz" is not an English word, nor is this somewhat indefinite symptom (*i.e.*, pain) an entity of itself. The point of the other so-called "omission" is quite beyond me to appreciate.

With regard to your reviewer's remarks on my description of menstruation, will he refer me to a fuller, more scientific, and accurate one?

Further, I must ask you to believe that your reviewer is ignorant of the meaning of the terms "induction" and "deduction." The most casual reader would be forced to admit that my method is essentially "inductive."

I should never have dared to write this letter did I not possess spontaneous letters of appreciation of my book from a very large number of eminent gynaecologists, and had not a very large proportion of all the reviews—at home and abroad—been most generous and encouraging.

No one has a right to expect a flattering review, but one is entitled to demand a competent and fair one. In order to ensure this, I think it is quite time that the Journal Committee insist that the reviews be initialled or signed.

*** The perusal of Dr. Blair Bell's book was looked forward to with considerable interest by the reviewer and it was with regret that he came to the conclusion expressed that in its presentation of the subject for students it was not so successful as the older method. The discussion of menstruation in Marshall's *Physiology of Reproduction* may be cited in answer to Dr. Bell's query. The two "omissions" were on points which arose in a clinical demonstration while the book was under consideration. One had been noticed in reading the text and the other, which it seems is only nominal, was looked for in the index; it is not necessary here to canvass their importance in symptomatology.

NOTES ON BOOKS.

DR. WILHELM STERNBERG'S somewhat violent booklet on the "exaggerations of abstinence" (*Die Uebertreibungen der Abstinenz*)[1] which has reached a second edition in Germany, is an answer to such a condemnation of alcohol as was published by Professor Georg Rosenfeld in Professor A. Albu's System of Diseases of Digestion and Metabolism, and is written with considerable literary ability, but is vehemently personal and abusive to those who differ from the author. Dr. Sternberg asserts that the word "poison" is used too freely, for the injurious effects of most substances depend upon the dose, and there are few articles of diet which do not contain substances which are poisonous in sufficiently large doses. He ridicules the unqualified statements of many of his German brethren who at times, he alleges, seem to take a too ascetic view of life and forget that human nature will seek what is pleasant as well as what is strictly necessary, and that their crusade against even a moderate enjoyment of the pleasures of the table may defeat its own object. Nevertheless we cannot agree with Dr. Sternberg's general line of argument, for he overlooks the supreme fact that alcohol, like opium, when taken in even small quantities may start a craving for intoxication, and that this abuse of alcohol is in our northern climates so common as to constitute a grave social evil. It therefore stands on quite a different footing to the other articles of diet with which he seeks to compare it, and it is futile to pretend that there is no greater reason for the campaign against alcoholic excess than against the over-use of other articles of diet which, no doubt, may be the causes of derangements of health.

One drawback to a career as a distinguished explorer must be the necessity (in the case of safe return home), of writing a history of one's travels, and many books of this kind are spoilt by too great learning or a lack of literary skill. Fortunately, however, this is not always the case. Dr. KARL KUMM has long been a recognized authority upon Africa, and his latest book will do much to enhance his reputation both as writer and explorer. *From Hausaland to Egypt*[2] is an extremely interesting account of his most recent expedition, which, in less than fourteen months from the time of its leaving England, managed to make its way from Forcados, on the West Coast of Africa, right across the Continent to Khartum, much of the country traversed having been previously totally unknown to any white man. Naturally enough, in these circumstances, Dr. Kumm and his companions had some curious experiences, one of the most exciting being their journey through a tribe of cannibals who "had tasted the flesh of many different nations; they had eaten Hausas, Fulanis, Ankwes, Montoils, and others, but they had never tasted a white man yet, and they were watching for one to come along!" But, interesting as is the recital of the various adventures encountered by the little band of pioneers, the chief charm of Dr. Kumm's book lies in the pictures of native life and customs, and the numerous thumbnail sketches of native character, so ably and so sympathetically drawn. Dr. Kumm writes as one who knows and loves his subject, and his clear, forcible style and keen sense of humour combine to make a most readable book of travels. The book is well printed, and the interest of the narrative is greatly increased by the coloured plates, and the large quantity of photographs, maps, and diagrams which serve as illustrations.

In the volume on *Hay Fever and Paroxysmal Sneezing*,[3] which Dr. EUGENE S. YONGE has published, the reader will find a careful summary of all that is at the present day known regarding these minor, but none the less aggravating, ailments. Volumes which are devoted, like this one, to the detailed study of an individual disease, necessarily reproduce, while they also elaborate, the teaching to be found in the many textbooks on medicine with which the profession is familiar. The multiplication of

[1] *Die Uebertreibungen der Abstinenz: eine diaetetische Studie fuer Mediziner und Nichtmediziner.* Von Dr. Wilhelm Sternberg. 2 Auflage. Würzburg: Curt Kabitzsch. 1911. (Sup. roy. 8vo. pp. 101. M. 2.40.)

[2] *From Hausaland to Egypt, through the Sudan.* By H. Karl Kumm, Ph.D. London: Constable and Co., Limited. 1910. (Pp. 324; illustrated. 16s.)

[3] *Hay Fever and Paroxysmal Sneezing* (Vasomotor Rhinitis). By Eugene S. Yonge, M.D.Edin., Physician to the Manchester Hospital for Consumption and Diseases of the Throat. Edinburgh and London: William Green and Sons. 1910. (Med. 8vo, pp. 150; 2 coloured plates. 6s.)

these monographs makes serious demands upon the time of the busy man who is also an omnivorous reader, but there is this justification for them, that they focus the greater part of the work done by others in no less degree than they relate the personal experience of their authors, and so constitute for themselves a valuable position in the literature of medicine as works of reference. Dr. Yonge's book will prove a valuable addition to every reference library and a useful guide to the individual practitioner who is specially interested in its subject-matter, for these two ailments, though generally trivial, are sometimes attended by considerable anxiety and difficulty in their successful management.

That a second edition of Dr. MYERS'S little book *On the Care of Children*[4] has been called for in less than a year after the publication of the first justifies the author's claim "that the book has evidently fulfilled a want amongst a certain section of the public." An appendix has been added, "demonstrating a simple method of making and sterilizing the baby's milk mixture without the use of expensive apparatus." The method is simple enough, and can be easily carried out in any household into which the book is likely to find access. It might have been mentioned, however, that many authorities consider that there are advantages in the use of fresh raw milk, over that which has been boiled, pasteurized, sterilized, or cooled in any way, as a routine food for infant use. In the height of summer, and where there is any reason to doubt the purity of the milk, then the steps the author advises should certainly be carried out. The half-dozen books he recommends as suitable for children is certainly a meagre list in response to a request from "many mothers in England." Mrs. Molesworth's books for girls we know, but the rest are strangers to us. It may be, then, that some of them contain Cinderella, Bluebeard, Puss in Boots, and the redoubtable Jack. If they do not, we would enter a protest against the rising generation being deprived of the heroes and heroines whose adventures afforded generations of their ancestors such unalloyed delight. Why should the "*post nati*," too, be deprived of Andersen, Grimm, and the Arabian Nights. The first three pages of the chapter on "Mental Education of Children" might have been revised with advantage; much of the matter contained in them being trivial and obvious. That an infant calls its mother "mummy," its father "daddy," a horse "gee-gee," a steam engine "puff-puff," and so on, seems hardly worth recording. For children of 4 or 5 years old Dr. Myers is so enthusiastic and whole-hearted an advocate of the Froebel system that he would seem never to have heard anything to its possible disadvantage. All would agree with him in emphatically condemning any attempts to cram knowledge or instruction into a young brain. But it is held that a large portion of all knowledge, and juvenile knowledge in particular, is only valuable in proportion to the mental training undergone in its acquisition. There are schoolmasters who, rightly or wrongly, complain that with children trained in kindergartens they often find a difficulty in rousing the mental efforts necessary for dealing with the tasks of later years. There would seem to be two sides to a system in which the acquisition of knowledge is a mere matter of pleasure. In a review of the first edition we expressed the view that in the chapter on "Illnesses and Accidents," much of the matter relating to diseases might be omitted, and that referring to accidents expanded. We still fail to see what benefit mothers and nurses can derive from brief descriptions of such complaints as rheumatism, tuberculosis, pneumonia, pleurisy, diphtheria, typhoid fever, harelip and cleft palate, deaf-mutism, heart disease, and many others. It is equally unnecessary, too, in our opinion, to deal with the treatment of such complaints, which must be left to medical hands, and statements such as that in rickets "beef-juice, orange or grape juice, and maltine and cod-liver oil, in suitable quantities, are *all* given daily," are far from necessarily correct. That the little work has merits is not denied, but its value might be enhanced by omissions and expansions in the directions we have indicated.

[4] *The Care of Children, from Babyhood to Adolescence, for the Use of Mothers and Nurses.* By Bernard Myers, M.D., etc. Second edition, revised and enlarged. London: Henry Kimpton. 1910. (Cr. 8vo, pp. 189; 1s 6d.)

As Madeira has been declared free from cholera, the steamers of the Royal Mail Steam Packet Company leaving London every fortnight for Gibraltar, Morocco, and the Canary Islands will resume the call at Madeira after calling at Teneriffe. The cruise occupies twenty-two days. Further particulars can be obtained from the company, 18, Moorgate Street, London, E.C.

THE ANNUAL REPORT OF THE MEDICAL OFFICER TO THE LOCAL GOVERNMENT BOARD.*

(Continued from page 509.)

II.

A CERTAIN amount of difficulty has been encountered in regard to local authorities who neglect to carry out their duties in a proper manner, and Dr. Newsholme, in his introduction, suggests that as central compulsion has failed,

the only provision—apart from an educated and responsible public opinion—likely successfully to replace compulsion would be the institution of grants in aid of definite execution of sanitary administration, the grants depending on the efficiency of the work actually accomplished.

In some general remarks on the subject of *infantile mortality* Dr. Newsholme compares the evil to a vicious circle and shows how the circle is being broken in several places simultaneously. He refers to the difficulty of improving domestic hygiene whilst the sanitary authority allows nuisances to persist outside the dwellings.

INDIGENOUS DISEASES.

Discussing the falling mortality from *scarlet fever*, Dr. Parsons concludes that the main cause of the fall is the change in the type of the disease. With relation to a small but very fatal epidemic in the Isle of Portland it is suggested that the high death-rate, which could not be attributed to the importation of any very virulent strain, might be due to the fact that the population affected had not been immunized by former epidemics. Any explanation of the decline in the death-rate from *diphtheria* is regarded as very difficult and is complicated by the peculiar features of the long-continued epidemics. The position with regard to *enteric fever* is more satisfactory as the decline still continues, and owing to the knowledge gained in recent years as to the spread of the infection by flies, carriers, and the consumption of shellfish, there is good reason to suppose that the decline will continue. *Small-pox* was quiescent during the year, apart from some small outbreaks, one of which was probably due to infection by Egyptian cotton. The low mortality from *epidemic diarrhoea* must be ascribed to several causes—the lower birth-rate, sanitary administration, and most of all to the cool and rainy weather during the summer.

EXOTIC DISEASES.

Dr. Bruce Low gives a summary of the data with regard to plague and cholera. In India plague increased again after a fall in 1909. The Indian authorities have to rely upon three measures for the control of plague: evacuation of infected dwellings (which necessitates provision of temporary dwellings), injections with Haffkine's prophylactic, and an organized rat campaign. There is a note of the small outbreak in California due to an epidemic amongst ground squirrels.

Cholera has shown some decline in India, but the continued prevalence in Russia continues to cause alarm, which will not be mitigated by the fact that the water supply of St. Petersburg is badly contaminated with the organism, and that it will take about fifteen years to provide a satisfactory water supply. Small outbreaks in Europe and a solitary case in this country were traced to Russia, which is thus a continued menace. Cholera "carriers" have been discovered both in India and in Holland.

TYPHOID FEVER.

Prevalence of Typhoid in the County of Durham.

Dr. Newsholme writes an introduction to Dr. Wheaton's report on this subject, and charges many of the local authorities with gross neglect of their statutory duties. Durham has the highest typhoid mortality in the country, and the excess is mainly in the rural districts, which, though so-called, are really small urban districts concentrated round the pit heads. There was an absolute lack of evidence to incriminate the water supply. There was also no evidence of milk infection; in fact, the only food upon which suspicion could justly be laid was shellfish, often collected from sewage-contaminated beds, and

* The Thirty-ninth Annual Report of the Local Government Board, 1909-10. London: Darling and Son, Limited, 34-40, Bacon Street, E. (Medium 8vo, pp. 604. Price 3s. 7d.)

eaten in large quantities by the mining population. It had been suggested that the infection might be spread in the mines; but though it was impossible definitely to exclude this source of infection, there was no evidence pointing to it. Attention is directed to the neglected state of the sanitary administration with regard to the disposal of excreta, and some of the details given are positively disgusting. In order to bring home the importance of the question to the authorities concerned, Dr. Newsholme calculates the actual monetary loss to the county from typhoid during the last six years as reaching £315,600.

A Small Endemic of Typhoid due to Carriers.

Jennet Hill, a small hamlet in Berkshire, has been a focus of typhoid for many years. All efforts to trace it to milk, water, etc., failed, and an attempt was made to investigate the question from the carrier standpoint. The investigation was incomplete, owing to the refusal of many of the inhabitants to supply excreta for examination; but three carriers were found, and it was discovered that one of them had come into the district three years before the outbreak.

FOOD INSPECTION.

Dr. Buchanan's report on this subject contains much that is of public importance. Here we can only note a few of the most salient facts. It is satisfactory to learn that the certificates of inspection of meat slaughtered in foreign countries have been shown by subsequent inspection in this country to be reliable. Inspection of meat imported under these "official certificates" has rarely resulted in the discovery of disease. Difficulty has been encountered with regard to "inedible fat"—that is, the fat from diseased animals which is allowed to be sold for industrial purposes. It has been discovered that in one case at least the label "Inedible Fat" had been destroyed and a label "Best Continental Lard" substituted for it. The butchers in Newcastle seem to have settled the difficulty in regard to tuberculosis by co-operating to insure themselves, and they now work in harmony with the meat inspectors. At Middlesbrough there was an increase in the number of samples of milk reported as deficient in fat, and the explanation is interesting. It was proved in one or two cases that the milk from the cow was actually deficient in fat. This fact was seized upon by the milk purveyors, and it soon got to be generally known that the local authorities would not proceed against the purveyor if the percentage of fat was below 3 and above 2.7. The resulting laxity has undoubtedly caused a loss to the consumer. Attention is also directed to the adulteration of margarine with paraffin. Rice is apt to contain an excess of the steatite used in facing it; steps are being taken to minimize the quantity of steatite.

THE TYPHOID "CARRIER."

Dr. Ledingham furnishes a most valuable critical review of all the work which has been published on this subject. It is a very thorough piece of work, and embodies much valuable criticism grounded upon the author's considerable experience. From it are here abstracted many of the interesting facts, but the original will be indispensable to any one actively interested in the matter.

The urinary carrier was discovered by Horton Smith in this country, but the general recognition of the chronic intestinal carrier and the dangers arising from him is due to the German workers in the typhoid stations established under the guidance of Koch. He held that many infections were due to premature discharge of patients whilst still infective, and to unrecognized atypical cases of the disease. It was then found that many cases of infection could not be explained by the existence of known cases of typhoid fever, and Frosch was the first to suggest that the bacillus might lead a purely saprophytic existence in the human body. Drigalski then demonstrated the fact that 4.7 per cent. of fever cases continued to pass the bacilli in the faeces for more than three months after infection. The figures given by different observers in answer to the question, How many fever patients excrete the bacilli in the stools? vary very much, but recent work tends to show that the more careful the work the larger the percentage of positive findings. Gaehtens and Brückner found the bacillus in 75 per cent. of the cases during the third week. It has also been shown that the bacilli may be found in the stools during the incubation period. Lentz in 400 convalescent cases found 12 chronic carriers who continued to excrete bacilli for an indefinite period. Here again the evidence tends to show that the more careful the work the larger the percentage of chronic carriers discovered, for the excretion of the bacilli may be intermittent, hence several examinations of the stools are necessary. Several cases were investigated a year after the attack, and some chronic carriers were then found who had escaped discovery by the examinations during convalescence. Semple and Grieg discovered that among soldiers in India 11 per cent. became chronic carriers—that is, passed bacilli for more than three months. They made daily examination of the excreta, and this explains the high percentage found by them.

Klinger has provided a useful summary of the German "carrier" notifications and classified them according to age, sex, and nature of the carrying condition. Out of 220 "chronic carriers" 80 per cent. gave a history of an attack of typhoid fever. Females were to males nearly as 5 to 1. A definite diagnosis of gall stones was made in 13.6 per cent. of these cases. The greatest number were about middle age. Out of 211 "transitory carriers" only 43.6 per cent. gave a history of an attack. Very many of the transitory carriers were children, and it is possible that they had had a mild abortive attack. These transitory child-carriers may be very dangerous, and one remarkable case is on record where a suckling "carrier" infected six people.

Another important fact which has emerged from the German work on the subject is that the patient may be very dangerous in the incubation period, and some statistics indicate that almost as many contact cases become infected during the incubation period of the primary cases as during the later stage of the disease. The incubation period may vary from five to forty-five days.

Dr. Ledingham gives summaries of many outbreaks of the disease which have been proved to be due to carriers. In all house outbreaks attention should be directed to detection of a carrier. The infection may reach the other members of the household in various ways. When the carrier is engaged in the preparation of food the path of the bacillus is not difficult to guess. In other cases defective sanitary precautions in the form of defective privies contaminating the water supply are the means of spread of the infection. The most extensive epidemics are those due to contamination of milk by a carrier; several instances are given, but the most striking is the case of the Folkestone carrier, a milkman, "N." From 1896 to 1909, 359 cases of typhoid had occurred in Folkestone; of these, 36 were definitely known to have been imported cases; whilst of the remaining 323, 207 were known to have had milk within three or four weeks of the commencement of their illness from one or other of the farms upon which from time to time "N" acted as milker. This fact did not escape Dr. Thomson, who investigated the matter in 1901; but, as the facts about typhoid "carriers" had not at that time come to light, he dismissed the coincidence with the remark: "No milker, even if uncleanly in his ways, could convey infectious material unless the infectious material be there to convey." In lunatic asylums, again, the carrier is very dangerous, and it has been suggested that the increased frequency of the carrier state among asylum inmates was due to some predisposing action of the psychosis, but Dr. Ledingham thinks that the fact of the matter is that in an asylum the opportunities are so favourable for the spread of infection that a single "carrier" may infect many others who become chronic carriers. In the army the "carrier" question is of the highest importance, and it is satisfactory to learn that some of the best work on this aspect of the question has been done by our fellow countrymen, Semple and Grieg, working in the Indian cantonments. As above mentioned, they have shown how common is the chronic carrier among convalescents, but they have also shown that the nursing orderlies are very apt to become infected. They suggest that it would be a useful precaution to have a special trained body of men who should be confined to this work. In one German case it was discovered that a urinary carrier had apparently been followed about from regiment to regiment by a crop of typhoid fever cases. A Japanese regiment which had suffered severely during

the Manchurian campaign was subsequently examined, and eleven chronic carriers were discovered.

Pathogenesis of the Carrier State.

There is an intimate connexion with the occurrence of gall stones. All the carriers who have been examined either *post mortem* or at operation have been found to suffer from gall stones. This also explains the hitherto unexplained fact that cases of jaundice are apt to give a positive Widal reaction. The fact that only about 14 per cent. of the cases have symptoms of gall stones agrees fairly well with the known fact that only about 10 per cent. of those who have gall stones suffer from symptoms of cholelithiasis. The evidence seems to point to the conclusion that the bacilli invade the gall bladder from the blood and are there found in nests within the mucous membrane. They set up a chronic or acute cholecystitis, which results in the formation of gall stones. The increased incidence in the female is probably due to biliary stasis, which is promoted by pregnancy and the wearing of corsets. An attempt has also been made to show that the menstrual and puerperal loss of blood by decreasing the immunizing powers of the individual may predispose to the condition. In the case of the urinary carrier the bacilli are probably lodged in nests in the mucosa of the pelvis of the kidney and the urinary bladder.

The carrier suffers under some physical disabilities. Headaches are very common, and it has been found that they are relieved when the carrier condition is cured. Some of the cases have died, apparently from the results of a generalized autoinfection with the bacillus. In other cases there have been some indications of minor infections with symptoms of intestinal disturbance, and in some the Widal reaction, previously negative, has become positive during these attacks.

Treatment.

Drugs, sour milk, vaccines, *x* rays, and even operation, are known to have failed in many cases. The cures which have been claimed must be accepted with reserve, as the intermittency may easily be mistaken for a cure. One urinary carrier was apparently cured by urinary antiseptics pushed to their physiological limits.

Diagnosis.

The Widal reaction, which is positive in perhaps two-thirds of the cases, may be used for the preliminary investigations, but the only reliable means of diagnosis is the examination of the stools for the bacillus, and it cannot be too strongly emphasized that a single examination is not sufficient. For the recognition of the bacillus in the stools numerous methods have been tried and advocated, but Ledingham thinks that the most important factor is that the worker should be familiar with one medium. For himself he prefers MacConkey's bile-salt-lactose agar.

Statistical Data.

The question how many cases of typhoid fever are due to infection from carriers is very difficult to answer, and again we find that the more thorough the method of investigation employed the larger the percentage of such cases appears to be. Kayser gave the percentage as 9.5, whilst later Mayer, who is a very reliable authority, put the figure at 32 per cent.

The Immunity Question.

Here again the question is very complicated. Agglutinins are not always present, and are by no means a reliable index of the immunity. Bactericidal substances have not been demonstrated satisfactorily. Ledingham has found an increased opsonic index, whilst complement deviation seems to have given a fair number of positive results. Many of the paradoxical carriers who have never had the disease may in reality have had an abortive attack.

Preventive Measures.

One thing certain is that the worse the sanitary surroundings of the carrier the greater the danger to others. In asylums, where the filthy habits of some patients are uncontrollable, every patient on admission should be examined for bacilli, and, if found to be a carrier, should be isolated in a separate block. In the army no man who has ever had typhoid should be employed as cook until he has definitely been proved to be free from the bacilli. Carriers should not be allowed to prepare food in civil life, and, where it is impossible to prohibit this, the hands should be very carefully washed. It has been shown that thorough washing with soap and water will remove the bacilli from hands smeared with faeces containing the bacilli, but, if an antiseptic be considered desirable, the best is alcohol, which may be used in the form of eau de Cologne.

Routine examination of every case of typhoid fever, to determine the freedom or otherwise from the bacilli, is at present impossible, but it is suggested that it might be wise to send them all to special convalescent homes. Two purposes would be fulfilled by these homes: The immunity reaction would be encouraged, and at the same time the patient could be educated.

PYOGENIC COCCI.

Dr. Andrewes continues his laborious researches on the immunity phenomena induced by the pyogenic cocci. He confirms the results published by himself and Dr. Horder in a former report. These point very strongly to the conclusion that in the case of the staphylococcus the streptococcus and the pneumococcus the leucocytosis plays an important part in the recovery of the animal from a dangerous dose of the organisms in question. The reaction of other bacilli was also studied. Injection of the tubercle bacillus was found to be followed by practically no leucocytosis nor was there a leucoblastic reaction in the bone marrow. He concludes that the leucocytes take little part in the resistance to an invasion with this bacillus.

In diphtheria the leucocytes seem to play a part in the resistance. The colon bacillus acts in a very similar manner to the pyogenic cocci. There are differences, however, as immunization with the colon bacillus did not produce any leucoblastic reaction in the marrow. One animal recovered from a severe septicaemia with a very slight leucocytosis. Dr. Andrewes suggests that bacteriolysis plays an important part in the resistance to colon infections. With the typhoid and Gaertner bacilli similar relations obtain.

GAERTNER BACILLI IN PREPARED MEATS.

Dr. Savage adduces evidence to show that the epidemics of meat poisoning are due to infection with Gaertner bacilli, and that this bacillus is not a common excremental bacillus of man or of the domestic animals, but a specific pathogenic organism. He examined fifty specimens of meat from different sources, and in only one case did he find the true Gaertner bacillus, although he found there was plenty of bacterial evidence of excremental pollution. The methods used to identify the organisms were the various fermentation tests, which are not accepted as reliable by some authorities, but we note that serological investigations confirmed his conclusions.

The fact remains that there is a great deal of unnecessary pollution of foodstuffs with excremental material, and therefore much need for more careful supervision. It was also shown that the true Gaertner organism could survive—in spite of the competition of other organisms—on various meatstuffs. Both the Gaertner bacillus and the colon bacillus die rapidly in brine which contains 15 per cent. of salt.

MILK.

Bacterial Measurement of Milk Pollution.

Dr. Savage's report on this subject is of great practical importance, as it gives an answer to the much disputed question, What is the best test of milk pollution? Dr. Savage's reply to the question will certainly not meet with universal acceptance, but he brings forward very good evidence for his conclusions. He found that the estimation of the acidity, the methylene blue reduction test, and the changes after incubation for six hours are of little value as routine tests. Similarly, the total number of organisms per cubic centimetre is of little value. The quantitative tests for the number of *B. coli* and for the spores of *B. enteritidis sporogenes* were of value, as was the examination of the centrifugalized deposit for organisms when the bacteriological results were compared with the known conditions under which the milk was collected. He estimates that a standard of 1,000 *B. coli* per c.cm.

during summer and 100 during winter would ensure that proper conditions were observed as to the collection and storage of milk. He very strongly objects to the use of strainers by the farmer, as they form an excuse for dirty methods, and he has found that straining, even by one of the best strainers on the market, may actually increase the bacterial content of the milk. The strainer might also assist in spreading a specific infection—that is, *B. typhosus*—from one sample of milk to another.

Chemical Changes in Milk and their Relation to Summer Diarrhoea.

This difficult chapter in pathology has been the subject of some very suggestive experiments by Dr. Scholberg and Mr. Mackenzie Wallis. They have shown that bacterial decomposition of milk leads to the formation of peptones at the expense of the casein, and that these peptones have an action like that of secretin. It is suggested that the peptones act as stimulants to the pancreas of the infants fed on cow's milk, with subsequent exhaustion of the gland. Their conclusions are supported by *post-mortem* examination of some cases of epidemic diarrhoea.

BODY CELLS AND THE TUBERCLE BACILLUS.

Dr. James Miller describes the cytology of tuberculous lesions, especially those following the intraperitoneal injection of the tubercle bacillus. In the normal animal the polynuclear cells supply the first line of defence, but are soon supplanted and themselves consumed by the large mononuclears. If the animal be injected with tuberculin the polynuclears are more in evidence. We note that he did not find Much's method more valuable than the ordinary carbol-fuchsin method for the staining of the bacilli.

PURIFICATION OF CHALK WATERS BY CHEMICAL MEANS.

Mr. C. G. Moor and Professor Hewlett report a long series of investigations into some of the methods of purification which appeared practicable. Their conclusions are that softening alone is very unreliable, but that sterilization by means of ozone deserves further investigation, as it appears practicable and reliable. They also produce good experimental evidence to show that the addition of 0.25 part of free chlorine per million (from bleaching powder) produces sterility (as regards *B. coli* and cholera vibrios). Some means of removing the chlorine would have to be devised; but that appears to be practicable.

MEDICINE IN THE "ENCYCLOPAEDIA BRITANNICA."[1]

SECOND NOTICE.

COMING to special articles, we may say in general terms that they reach a high standard of excellence. Of course they vary in merit, but on the whole they supply just the amount and kind of information that is wanted. In style they are neither too popular nor too scientific. In the article on Adulteration a broad view of the subject is given, but special attention is devoted to our own laws on the subject. Our forefathers dealt with adulteration with a severity that would seem barbarous to adherents of the *caveat emptor* principle in commerce. The first statute in which the adulteration of human food was expressly prohibited was passed in the reign of Henry III. This enactment was strictly enforced in the days of Edward I, for it is stated in the *Liber Albus* that "if any default shall be found in the bread of a baker in the city, the first time, let him be drawn upon a hurdle from the Guildhall to his own house through the great street where there be most people assembled, and through the great streets which are most dirty, with the faulty loaf hanging from his neck; if a second time he shall be found committing the same offence, let him be drawn from the Guildhall through the great street of Cheepe in the manner aforesaid to the pillory, and let him be put upon the pillory, and remain there at least one hour in the day; and the third time that such default shall be found, he shall be drawn, and the oven shall be pulled down, and the baker made to forswear the trade in the city for ever." Long before that day we read of punishments that show that even before the Conquest Englishmen would allow no tampering with their beer. In the reign of Edward the Confessor a brewer in the city of Chester was taken round the town in the cart in which the refuse of the privies had been collected. Ale-tasters had to test the ale by spilling some on to a wooden seat, and sitting on the wet place in their leathern breeches. The stickiness of the "residue obtained by evaporation" afforded the evidence of purity or otherwise. If sugar had been added the taster adhered to the bench; pure malt beer was not considered to yield an adhesive extract. On the Continent those guilty of adulteration were treated in an equally drastic fashion. In 1390 a wine-seller of Augsburg was sentenced to be led out of the city with his hands bound and a rope round his neck. In 1435 "were the taverner Christian Corper and his wife put in a cask in which he sold false wine and then exposed in the pillory. The punishment was adjudged because they had roasted pears and put them into new sour wine in order to sweeten the wine. Some pears were hung round their necks like unto a Paternoster." In Biebrich on the Rhine in 1482 a wine falsifyer was condemned to drink six quarts of his own wine. From this he died. A clear account is given of modern legislation in regard to the adulteration of food, drugs, and beverages.

It is impossible within the space at our disposal to refer to every article dealing with matters that come under the head of Medicine; we can only touch here and there on certain points. The article on Anaesthesia gives a concise account of the history of the subject and of modern methods of producing insensibility to pain. We are sorry to have to point out two misprints in the article. "Wildie," the Liverpool chemist who is said to have suggested a trial of chloroform to Sir James Simpson, should be Waldie, and "Trendelenburgh" should be Trendelenburg. In the article on Anatomy the admirable history of the evolution of the science written for the ninth edition by the late Dr. Craigie of Edinburgh is substantially reproduced. It may not be amiss to point out that it is scarcely correct to describe Celsus as "one of the most judicious medical authors of antiquity." Most authorities are, we believe, now agreed that Celsus was not a physician, his treatise, *De Medicina*, being only one of a series of works intended to form a system of knowledge of things in general comprising all that a Roman gentleman should know. That Celsus was not recognized as a medical author by his contemporaries and followers seems to be proved by the fact that he is not quoted by them. It is unsatisfactory that the number of subjects for dissection has been steadily diminishing, especially in London, since 1895. This is said to be due partly to the modern system of insuring lives for small sums, which tends to cause a decrease in the number of unclaimed bodies, and partly to the fact that the Anatomy Act is permissive, and there are still some boards of guardians which will not allow even unclaimed bodies to be used for dissection or the teaching of operative surgery.

Mr. Edmund Owen discusses appendicitis in an article which gives all the essential facts without a superfluous word. The article is an admirable example of the kind of exposition which will enable the head of a family, without embarrassing him with technicalities, to deal intelligently with a situation with which he may be confronted at any moment. The same author gives a good account of diseases of the bladder and prostate. The article on the brain, which occupies twenty pages, is by Professor Sherrington. It is a lucid exposition of a difficult subject.

[1] *The Encyclopaedia Britannica*. A Dictionary of Arts, Sciences, and General Information. Eleventh edition. Vols. I-XIV. Cambridge: University Press. 1910.

THE eleventh annual report of the Association of Certifying Factory Surgeons brings the history of this body up to the end of 1910 and to the beginning of its new career as an incorporated body. The first president of the new association is the late secretary of the original body, Dr. Dearden of Manchester, who gives in this report a general sketch of the proceedings of the association since its inception, and makes grateful acknowledgement of the support which factory surgeons have received from the British Medical Association.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

THE provincial meeting of the Association was held on Thursday, February 23rd, at the Cardiff City Mental Hospital, by the courtesy of Dr. Edwin Goodall and the Committee of Visitors, under the presidency of Dr. JOHN MACPHERSON. There was a good attendance of members and visitors.

Luncheon.

The business of the sitting was preceded by a luncheon in the large hall of the hospital, at the invitation of the Lord Mayor (Alderman Charles H. Bird), and among those present at that repast were the President in the chair, the Lord Mayor, Alderman Morgan Thomas, J.P., Dr. G. H. Savage, Dr. Charles Mercier, Dr. Tenison Collins, Dr. Hayes Newington (Treasurer), Dr. Hubert Bond (General Secretary), Dr. Percy Smith, Dr. Miller (Registrar), Dr. Drapes (President-elect). After the toast of "The King," the Lord Mayor proposed that of "The Medico-Psychological Association of Great Britain and Ireland," coupled with the name of the President. He pointed out that the membership of the Association was 700, and that its organ, the *Journal of Mental Science*, reflected the most recent researches bearing on the speciality. An important part of the activities of the association consisted in awarding special prizes to assistant medical officers, granting certificates to mental nurses of both sexes, and in other ways raising the status of all who were connected with the care and treatment of the insane. He concluded by extending a cordial welcome to the association in the name of the citizens of Cardiff.

The PRESIDENT, replying on behalf of the association, expressed gratitude for the city's kind hospitality, and remarked that the function of the members being the care and treatment of the insane, it was necessary continually to educate themselves, and it was in pursuance of that aim that the opportunity of the visit to the Cardiff Mental Hospital was welcomed.

The PRESIDENT proposed the toast of "The Lord Mayor and the Corporation," and expressed a high opinion of the new mental hospital, which was well worthy of emulation. In replying, the LORD MAYOR said that in constructing the hospital the aim had been to have an institution which should be worthy of the city and of the cause, one in which patients could be properly housed and cared for, and yield a fair proportion of cures. That fair degree of success he could claim had been achieved. A further aim had been to make the hospital, by means of an efficient staff and adequate laboratory accommodation, a centre of investigation, and already distinct scientific advances had been made. He hoped one result of the visit of the association would be to encourage the workers at the hospital, and to show the ratepayers of Cardiff the wisdom of the course which had been pursued.

Alderman MORGAN THOMAS, J.P. (chairman of the Cardiff Mental Hospital Committee), proposed the toast of "The Visitors," coupled with the names of Dr. George H. Savage, Dr. Charles A. Mercier, and Dr. E. Tenison Collins. He animadverted upon the importance of our more enlightened treatment of the insane, as compared with the old heathenish method, with its hopeless outlook; and pointed with great satisfaction to the fact that the cures at the hospital in acute cases had been 46.7 of the admissions. There was also much wisdom in using the word "Hospital," for, as Dr. Goodall said when the matter was discussed, the aim was not merely to detain mental cases, but to cure them. Dr. Savage, Dr. Mercier, and Dr. Tenison Collins, each replied.

Wassermann Reaction in Mental Disorder.

At the scientific meeting in the afternoon the first paper was a report of an exhaustive research by Drs. H. A. SCHOLBERG and EDWIN GOODALL, both of the Mental Hospital. It was entitled "On the Wassermann Reaction in 172 Cases of Mental Disorder (Cardiff Mental Hospital) and 55 other Cases (Cardiff Infirmary, etc.), with Historical Survey." The authors dealt with the work of Bordet and Gengou on complement fixation and its application to the case of syphilis by Wassermann, and then reviewed the published statements on the subject since 1906. The paper set out in detail the results in general paralysis and other kinds of mental disorder, including dementia praecox, epilepsy, idiocy or imbecility with epilepsy, idiocy and imbecility, and various other kinds of mental disorder. The results were also given in the case of controls from syphilitic non-mental cases for purposes of comparison. In addition they set out the results obtained by the dilution and concentration of the human amboceptor. An important point dealt with concerned the absolute and relative frequency of the reaction in serum and liquor cerebro-spinalis, and its variability in individual cases. They found that the reaction became negative during a remission of the symptoms in general paralysis of the insane in several cases, but considered that there was need for a more detailed investigation on that point. Other points brought out were the necessity for repeated examination, the diagnostic value of a positive reaction in the liquor cerebro-spinalis, the value of the Nonne-Apelt tests, and the desirability of ascertaining the relative frequency of the reaction in cases of general paralysis with known syphilitic history as compared with all cases of that disease.

Dr. PARKER, in discussing the paper, said that in 10 cases in which "606" had been used there was no alteration in the reaction after treatment.

Dr. G. H. SAVAGE regarded the contribution as an epoch-making one. The fact that one case in which the reaction was negative proved to be one of injury and not syphilis, reminded him of a claim which had been made for compensation for injury, in which the defence was that it was a disability due to specific disease and not to injury. If it could be definitely established that the positive reaction to the Wassermann test meant the disease in question, such cases could soon be disposed of.

Dr. PERCY SMITH heartily congratulated the authors on their work. He had not the opportunity of laboratory work, and as his work was mainly clinical, he was glad to hear Dr. Scholberg say that there were cases in which reliance must be placed chiefly on the clinical aspect. He understood that there were cases of general paralysis in which, even late in the disease, there was a negative reaction, and also some in which in the early stage the Wassermann test was negative, although the physical signs might point to the disease, but in which a positive reaction only developed as the disease progressed. There could be no doubt that the test was a most valuable aid to diagnosis. He related a case in which there appeared to be all the typical symptoms of general paralysis, but in whom the Wassermann test was negative. There was no history of specific disease, but there had been a severe injury to the head. It was probably traumatic general paralysis. One case, which seemed to be general paralysis, and in which there was specific disease, was given "606," and following that exhibited increased excitement and exaltation. But the physical signs still remained in abeyance. At the Berlin Congress on the Care of the Insane a paper was read showing that the Wassermann reaction was positive in many cases of malaria, presumably those in which there was no syphilis.

Dr. FAULKS asked whether the authors had compared their results with the cell counts in the cerebro-spinal fluid, and whether they would describe the details of the precipitation test.

Dr. SCHOLBERG replied that cytological counts were not done.

Dr. GOODALL replied that the observers who made the test and the cytological count found that the results did not necessarily coincide.

Production of Indigo in the Human Organism.

Dr. R. V. STANFORD read a paper on the production of indigo in the human organism.

Dr. SAVAGE remarked that it was going rather far to say that there was no parallel to be traced between the presence of indican and the mental symptoms in a stuporose case.

Dr. GOODALL said he had been watching the work, and was of opinion that the whole matter was in a state of flux; there was no exact knowledge on the subject of the production of indigo in the urine. Indigo occurred in the urine in other states than constipation and obstruction in the bowel, in such state as marasmus, cachexia from carcinoma, phthisis, etc. The paper showed the need of the subject being taken up by skilled workers qualified

chemists, because those medical men who had made statements on the matter up to the present were not competent chemists or physiologists. This applied especially to certain Italian workers. They said one could associate the presence of indigo in the urine with clinical conditions. But this reseach did not warrant that statement.

Gynaecological Conditions in Mental Disturbances.

Mr. E. Tenison Collins, Gynaecologist to Cardiff Infirmary, read a paper entitled Notes on Gynaecological Conditions coincident with Mental Disturbances, in which he showed the close connexion between the nervous and generative systems. The disorders of the latter, in females, were often accompanied by headache, epilepsy, insomnia, hallucinations, the cure of which was followed by disappearance of the disturbances. If abnormalities of the pelvic organs in the insane were treated, there was generally improvement in the state of health, and, if the abnormalities were present before the onset of the insanity, the mind would also improve in some of the cases. But operations upon the reproductive organs were inadvisable for the amelioration of the insanity alone. The selection of the proper cases for this must be made by the medical staff.

Metabolism in the Insane.

Mr. R. L. Mackenzie-Wallis read a paper on metabolism in the insane. His investigation showed that there was but little difference in the metabolism of the insane in comparison with that of normal people; but there were differences in the products derived from cellular activity, especially in some forms of insanity. In this it was suggested that the ductless glands played a large part, as the effects of disease of those glands on the metabolism were well known.

Dinner.

At the dinner in the evening at the Royal Hotel, Cardiff, Dr. Macpherson proposed "The City and Port of Cardiff," and spoke highly of the vigour and wealth of the city and its progressive and enlightened policy. Nowadays people were not so much asking how rich the rich were, but what they were doing with their riches. If there were slums in Cardiff, their parks and open spaces formed an excellent set-off to them. The Mental Hospital was unique in its efficiency and in the work it was doing.

The Lord Mayor, in his reply, said the thanks of all Cardiffians were due to Dr. Macpherson for his kind words. They were proud of their city and of its trade, which was a very large one. They felt great pride in having had a visit from such an association.

Dr. G. H. Savage proposed "The Mental Hospital Committee," coupled with the names of Dr. Goodall and Alderman Morgan Thomas, J.P., and spoke of the high quality of the work being done at the hospital in the attempts to advance the knowledge of mental disease.

Mr. Alderman Morgan Thomas, J.P., in responding, spoke of the excellent work being done at the Mental Hospital by Dr. Goodall and his staff, and said he believed that general hospitals ought to be supported out of the rates. The old idea in regard to diseases of the mind was that when once a person went into an asylum he or she was doomed as far as this life was concerned. But better ideas now prevailed, and the old heathenish idea of mere detention had long been discarded. He saw no reason why diseases of the mind, provided they were not chronic, should not be as curable as those of the body.

Dr. Goodall also responded, and expressed his belief in the German system of clinics, whereby a patient was investigated from the standpoint of all the specialities—that of the mind included—and treated as his case was found to require. The staff and the Board of Management would feel in the visit of the association an incentive to continue their work with even increased enthusiasm, so as to add their quota to the sum of scientific knowledge.

Dr. Mercier proposed "The Health of the Visitors," coupled with the name of Dr. Maclean; and that gentleman replied.

"The Medico-Psychological Association" was submitted by Mr. Sheen, and he specially mentioned the welcome of local members of the medical profession.

The President of the Association (Dr. Macpherson) replied in a graceful speech, in which he bestowed high praise on the work being done at the Mental Hospital, and voiced the gratitude of the visitors for the reception they had enjoyed.

SEIGEL'S SYRUP AND "SECRET REMEDIES."

We have received from a correspondent particulars of letters which have passed between the proprietors of Seigel's Syrup and himself. They are characterized by a direct terseness on his side, and the opposite qualities on the other, that make them somewhat entertaining reading. The correspondence opens with a letter from the makers of this nostrum, which is self-explanatory:

Dear Sir,

We received today by post a wrapper which had enclosed one of our Mother Seigel pamphlets addressed to you and on which the sender had copied the stupid so-called analysis of our Syrup from the publication of the British Medical Association. You also copy the still more silly averment "Cost of 3 fluid ounces ½ of 1d." and your own comment on the whole is, "Nice profit at 2/6! What humbug"!!

As you seem to be inclined to believe whatever you read, we desire to say: That the pretended analysis is positively absurd; That it does not remotely resemble the actual formula of our medicine, which really contains over a dozen vegetable or herbal extracts; That it costs much more than ½ of 1d. for 3 fluid ounces; That it is actually worth more than it sells for as an effective curative remedy; That it is not a "humbug"; That humbugs do not last forty years and still continue as business successes in all parts of the world as our preparation does.

From your penmanship we think it not unlikely that you are a medical practitioner, in which event your animus becomes quite intelligible. If you are a layman, please consider fairly our assurance that the published analysis (?) is merely an effort of the "Doctors' Trust," or "Medical Practitioners' Trade Union" to injure successful rivals. Don't let them humbug YOU!

It is of course quite possible that the preparation in question "really contains over a dozen vegetable or herbal extracts," even though the statement follows the phrase "as you seem to be inclined to believe whatever you read." There is nothing in the report of the analysis, as set forth in *Secret Remedies*, to the contrary; but in that case the dozen extracts must have been present in too small quantity to be recognizable by chemical or physical tests, which reveal most active drugs even in traces. In the introduction to that book it is pointed out that vegetable extracts which contain no active principle cannot always be recognized by analysis, and a similar caution is repeated several times; but to any one acquainted with the nature of drugs it is obvious that such limitation of the powers of analysis are of little moment, since active drugs can almost always be recognized with certainty.

The reply to the above letter was the remark that:

The sole question is whether the public is more likely to be humbugged by the British Medical Association, which is certainly a responsible body of experts, or by the unknown vendors of a quack medicine;

And the writer adds:

Most of these abominations hail from America. Did yours originate there?

The makers reply to this in a long letter containing various assertions about their article in nine numbered paragraphs, although they commence by saying:

We have no desire to continue a correspondence which would probably not be accepted in a fair and reasonable spirit on your side.

And they omit to answer the one question that was asked as to the country of origin of the syrup. In acknowledging this letter, the recipient says:

As regards your letter generally, if the British Medical Association have issued false statements damaging to you and to your concoction, your remedy is patent.

If you, and all the other quack medicine dealers, specified in the 184 pages of *Secret Remedies*, and in the pages of *Truth Cautionary List*, choose to "take it lying down," the fair presumption is that the statements are true.

The makers do not appear to have found a further reply, and so the correspondence closes.

BRITISH MEDICAL BENEVOLENT FUND.

ANNUAL GENERAL MEETING.

SIR JOHN TWEEDY presided over the annual general meeting of the British Medical Benevolent Fund on March 6th.

In presenting the Treasurer's statement, Dr. SAMUEL WEST said that the balance sheets were three in number—that of the Annuity Department, showing a balance at the bank of £62; that of the Grant Department, with a balance of £1,018, which, however, would all be expended during the lean months that were to come; and that of the Ladies' Guild, with a sum of £168 to the good. The Annuity Department derived the whole of its income from property invested in trust securities. Since 1897 it had been the policy of the Fund to invest all legacies, instead of depending upon this fluctuating quantity as income. During the year under review £2,450 had been received in legacies and invested. In the Grant Department, to which the subscriptions were allocated, the income from this source had reached the record level of slightly over £2,000, but even this sum only represented an average of a few pence a head from each member of the profession. This department was a source of considerable anxiety, dealing as it did with the painful cases of the younger beneficiaries who were not eligible for annuities. Dr. West paid a warm tribute to the work of the Ladies' Guild.

Mr. E. PARKER YOUNG moved the adoption of the accounts, and related some personal experiences among those whom the Fund benefited. Their gratitude, he said, was very touching. One poor old ex-practitioner had obtained a grant, and was looking forward to the security of an annuity. On the morning after he was voted the latter, the speaker called at his house, and was told by the old man's niece that as soon as the treasurer's letter had come he had tottered off to the house of God to render praise.

In seconding the adoption of the report, Sir RICHARD DOUGLAS POWELL expressed the hope that the policy of investing the legacies would not be carried beyond a certain point. He did not greatly believe in the accumulation of very large funds in benevolent enterprise. He urged the value of the small subscription, say 5s., respecting which there was a certain amount of unnecessary shyness among members of the profession.

The balance sheets having been adopted, Dr. WEST submitted the report proper, which announced increased income, and also increased distribution in relief. The total income for the year was £5,408, of which £4,860 was distributed among the beneficiaries. Annuities representing a total of £2,559 were paid to 131 annuitants. The report thanked the medical and lay press for a continuance of their interest, "more especially the BRITISH MEDICAL JOURNAL and the *Lancet* for the insertion of the monthly record of cases relieved, and for their courtesy on all occasions."

Sir THOMAS BARLOW, in moving the adoption of the report, said that there were two things into which one was entitled to inquire before supporting any philanthropic enterprise—namely, Was it managed on sound business lines? and also, Was it backed up by personal service? The treasurer's statement supplied the answer to the first question, and the organization of the Ladies' Guild to the second. The Fund possessed fully the spirit which had become characteristic of modern philanthropy—a largeness of action, going out beyond the individual concerned. A great debt in this connexion was due to the tuberculosis campaign which had shown how necessary it was to consider, not only the sick man, but his family and dependents and the whole of the relationships of his life. He could not conceive anything more humane and admirable than the individualized care and personal service which infused the whole work of the Fund.

Professor HOWARD MARSH, Master of Downing College, Cambridge, in speaking to the motion, said that no man could belong to the profession, or even to the public and be associated in any way with the profession, without realizing the bitterness of the checked career—a career started with sanguine hopes and good qualifications, and shattered by the premature failing of health or the occurrence of prostrating accident. Even more bitter was the case of the practitioner's widow faced with the indignity of unaccustomed poverty. It was said sometimes that young doctors were improvident because they married. But "to run the risk of getting married" was almost essential to a man in practice as a family doctor. It was incumbent upon such a man, or nearly so, in view of the position he held, that he should have the complement of a wife. How could a man be out all day long, working mostly for other people, when there was no one to regulate and organize his household? Was the old proverb, "Nothing venture, nothing win," to be ignored? The man had to be careful, of course, remembering that he was giving hostages to fortune, but it was not fair to call him improvident because he had married early. Everybody believed in the principle of insurance, but there was more than one form of insurance. Sometimes a man who wanted a practice would borrow money with which to pay for it, and then insure his life to meet the debt. That was a thing that should seldom be done, because it involved too dangerous a risk. On the other hand, every practitioner should insure his life, if possible, and if the bonuses were not drawn out there was no better investment for money. But it was certain that the newly-started practitioner was often unable to find the 10 or 20 guineas a year necessary to effect an adequate insurance. Therefore he urged upon such a practitioner the value of identifying himself with the Fund, and helping it as he was able, knowing that, should misfortune overtake him, he in his turn would receive the sympathetic assistance of his brethren. In order to tap new subscription revenue, Professor Marsh suggested an appeal to doctors' wives—women were so tenacious—who might help the Fund in a systematic way by seeing that, perhaps, 6d. a week was set aside on its behalf, and that the modest accumulation descended upon the treasurer at the end of the year. He was one of those who believed—he asked excuse for the brutality of the phrase—in "shoving the women to the front in every department of life, *except some*," and he was confident that if only half the men in the profession were to put the matter into the hands of their ladies the Fund would be lifted out of the reach of anxiety.

A vote of thanks was accorded to the President, coupled with a felicitous mention of Lady Tweedy, on the proposition of Sir VICTOR HORSLEY, seconded by Dr. LANGLEY BROWNE, as was a vote to the Medical Society of London for the use of its rooms.

MOTOR CARS FOR MEDICAL MEN.

A CORRESPONDENT asks for advice with regard to the selection of a small motor car, preferably a 2-cylinder of about 9–10 h.p. We are unable for obvious reasons to recommend cars made by individual makers, but the following list of small cars at moderate prices may be of use to our correspondent:

	Cylinder.	Price.	H.P. R.A.C. Rating.
9 h.p. De Dion ...	... 2 ...	£235 ...	6.9
8–10 h.p. Panhard ...	... 2 ...	£225 ...	7.9
8–10 h.p. Delahaye ...	... 2 ...	£232 ...	8.0
9–11 h.p. Delahaye ...	... 4 ...	£262 ...	9.2
10–12 h.p. Enfield ...	... 2 ...	£252 ...	11.2
10–12 h.p. Austin ...	... 4 ...	£240 ...	10.0
12 h.p. Standard ...	... 4 ...	£275 ...	11.0

The prices given are of a chassis only, with the exception of the Enfield, which includes an open body. The discrepancy between the makers' h.p. and that of the R.A.C. is due to the latter's formula not taking into account the length of stroke but only the diameter of the cylinders. If the owner generally drives himself it is possible to have a body in which the steering wheel, etc., are within the closed body. Our correspondent says that the cost of the De Dion is rather higher than that of some others, and asks whether this is counter-balanced by increased reliability. The answer to this must be very much a matter of opinion, but there is no doubt that these cars have an exceptionally high character for reliability, as have also the Panhards, the Delahaye, and the Enfield, but the difference in reliability is not so great as it used to be; there are many small cars now the construction of which leaves little to be desired.

Dr. F. L. Nicholls of Fulbourn has addressed to us a letter in which he speaks highly of the Clyde, made by a Leicester firm. He says that the gear changing is silent and simple, the gears being always in mesh, and that the differential is included within the one gear box. These cars have White and Poppe engines, which he states to be powerful, although the compression is not high, an advantage in ease of starting. As the starting handle is on the side it can be used when necessary without getting out of the car. The transmission is by chain, which is well protected from dirt, and in the car which he has used for six months has given him no trouble. Dr. Nicholls also speaks well of a Stanley steam car. He has had one in use for four years and has been able to do all that is necessary by himself, except such as the firm of agents have done for him. He speaks particularly well of them as hill climbers.

ORGANIZATION OF MEDICAL ATTENDANCE ON THE PROVIDENT OR INSURANCE PRINCIPLE.

Meetings are being arranged by many Divisions of the British Medical Association throughout Great Britain to consider the report on the Organization of Medical Attendance on the Provident or Insurance Principle which has been prepared by the Special Poor Law Committee and Contract Practice Committee of the British Medical Association sitting in conference. The report was published in the Supplement to the British Medical Journal on March 4th, and has been referred to the Divisions as a matter for their consideration, with a request for answers to the series of questions with which the report concludes.

Meetings have already been arranged at a number of convenient centres, and to them not only the members of the Division in which the meeting is held, but also all members of the profession, whether members of the British Medical Association or not, as well as members of neighbouring Divisions, are invited.

Among the meetings already settled are the following, which we understand will be attended by the Medical Secretary of the British Medical Association, who will be prepared to afford additional information on any points which may be thought to be not entirely clear, and to give assistance in arriving at decisions which may enable the Divisions to answer the questions set out in the report.

Thursday, March 9th	...	Altrincham (Lancashire)
Thursday, March 16th	...	Gloucester
Friday, March 17th	...	City of London
Saturday, March 18th	...	North Suffolk
Friday, March 24th	...	Newcastle-on-Tyne
Monday, March 27th	...	Glasgow and West of Scotland
Tuesday, March 28th	...	Northampton
Wednesday, March 29th	...	Leicester
Friday, March 31st	...	Liverpool.

The preparation of the report has involved an enormous amount of labour, and its text appears to put all aspects of the matter fully and fairly before the profession. The importance of the matter is beyond question, and the conference by which the report was drawn up entertained, we understand, a strong opinion that the Divisions will be well advised to give early and full attention to the many questions which arise. This importance will not be diminished if the statement that the Chancellor of the Exchequer hopes to be able to introduce his measure to provide for sickness and invalidity insurance before Easter should prove to be well founded.

The meetings enumerated above will, as stated, be attended by the Medical Secretary, and similar meetings are being arranged by other Divisions. It will, therefore, be desirable that Divisions which desire the Medical Secretary's assistance should communicate with him as early as possible, and should fix their meetings with regard to the above table.

LITERARY NOTES.

Mr. Murray's publications for March will include a new book by Sir Rubert Boyce, entitled, *Yellow Fever and its Prevention.*

Messrs. Longmans will shortly publish *The Life and Letters of Sir John Hall, M.D., K.C.B.*, who, as Inspector-General of Hospitals, was in charge of the wounded during the Crimean war. The book is the first biography of a distinguished Englishman written by a well-known Hindu writer, the author being Mr. S. M. Mitra, author of *Indian Problems*, *Hindupore*, etc., who deals with Sir John Hall's career in Flanders, the West Indies, Spain, South Africa (including the Kaffir war of 1852), India, and the Crimea. Among the illustrations is one of the wounded at Waterloo, whom Dr. Hall attended as hospital assistant. Rear-Admiral Sir Massie Blomfield, who served throughout the Crimean campaign, has written an introduction to the book.

The second and last part of the collective investigation of influenza appeared in the February number of *L'Hygiène*, which also contains a report of a most interesting lecture on mosquitos delivered some time ago by Professor Raphael Blanchard. After a lucid description of the evolution of the mosquito from a harmless looking egg into a little insect capable of inoculating a human being with some deadly sickness, Professor Blanchard goes on to explain the close connexion which exists between these tiny carriers of infection and such diseases as malaria or yellow fever, and briefly indicates the necessary precautions to be taken in order to protect mankind from their ravages. Another interesting article is Dr. Lucien Jacquet's account of the hygiene of the hair, which, under a cloak of airy persiflage, contains some valuable hints as to the care and preservation of the hair. Much useful information concerning the treatment and prevention of lithiasis may be gathered from this month's *Bréviaire de l'arthritique*, whilst Dr. Maurice de Fleury offers some sound advice with regard to the frequent taking of purgatives. As usual *L'Hygiène* is beautifully illustrated, this month's number containing, amongst a number of others, reproductions of such famous pictures as Holbein's "Portrait of a Man" from the Berlin gallery, Reynolds's exquisitely graceful painting of Mrs. Carnac, and a couple of Chardin's most charming scenes of eighteenth century life.

The gratitude of patients to their doctors is proverbially short-lived, but it is none the less curious that when a cure is wrought, the tendency of people is to ascribe it to anything rather than medicine. A striking example is given by Brântome in his *Vies des dames illustres de France.* Speaking of the Queen of Spain, Elisabeth de France, he says that a year before she returned to France and stayed at Bayonne, she had a very serious illness, and the doctors despaired of her life. Then a little Italian physician, who was not thought much of at Court, went to the King and told him that if he was allowed to treat Her Majesty he could cure her. Having obtained the King's permission, he administered some medicine to the patient; and directly she had swallowed it, not only did those about her see the colour return "miraculously" to her cheeks, but she recovered her speech, and soon was convalescent. During the whole course of her illness the Court and the Spanish people made the public highways impassable by processions and crowds going to and from the churches, some in their shirts, others barefoot and bareheaded, all offering to Heaven on behalf of the Queen not merely their prayers, but also fasts, macerations of the body, and the like "good and holy devotions." Therefore it was firmly believed by all that Her Majesty's health had been re-established by means of these prayers, tears, vows, and cries, and the skill of the doctor was counted as nought. In like manner, many a cure that is really due to medical science is credited to some quack remedy taken at the critical moment.

At the 117th annual meeting of the friends and supporters of the Belfast Maternity Hospital, held on February 28th, Mrs. Crozier, wife of the Archbishop of Armagh and Primate of all Ireland, in seconding the adoption of the reports, made the following interesting personal reference to her relative, Dr. Bartholomew Mosse, who founded the Rotunda Hospital in Dublin:

> At such meetings they generally heard of the Rotunda Hospital in Dublin quoted as a pioneer hospital. It owed its existence to the benevolent exertions of one man, Dr. B. Mosse, who at his own private expense opened a house in George's Lane as a hospital. This was the first maternity hospital established in the British Dominions. Two years later application was made by some well-disposed persons in London to the directors of the hospital for plans of the scheme and regulations, and a year later a hospital was established in London. The hospital in George's Lane became too small, and eventually Dr. Mosse in 1748, with his own restricted means, purchased the ground where the present Rotunda stands. He died in 1759 at the early age of 47, but his work lived after him, for they knew that not alone as a hospital but also as a school of teaching the Rotunda Hospital stood on the highest platform.

Mrs. Crozier proceeded to read portions of a report on the work of the maternity nurses amongst the poor on the County Down side of the river, and, concluding, said she hoped that work so beneficent and so sorely needed would never be allowed by the people of Belfast to be crippled by want of funds. As the great-great-granddaughter of Dr. B. Mosse she had the greatest pleasure in seconding the adoption of the reports, and she would be a worthless descendant of his if she did not do what she could to help that work.

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PHARMACOLOGY AND THERAPEUTICS.

PRACTICAL therapeutics is a subject much neglected in the curriculum of the British medical student; most textbooks of medicine deal with treatment in a brief and inconclusive manner, which contrasts rather strongly with the elaborate discussion of etiology, diagnosis, and prognosis. The contrast cannot fail to have an influence on the student's mind. It is true that many books entirely devoted to treatment have been published, but in regard to very many of them it may be said that, though replete with formulae and useful as works of reference, they do not give the comprehensive and ordered information needed in times of doubt and emergency. Such information should not only indicate the medicaments that may be depended upon, but should also formulate the *rationale* of their action, direct attention to the limitations of their activity, point out the combinations in which the most good may be expected from them, and warn against the conditions in which they may possibly do more harm than good. Pharmaceutical teaching in our universities and colleges is lamentably inadequate, and nine men out of ten graduate with the most insufficient knowledge of a branch of their art which to no small extent affects success in practice. Their information must be gained from experience and reading after they have exchanged the quadrangle for the consulting-room.

With few exceptions, as has been said, textbooks of medicine do not give the therapeutic guidance desired. In many this important subject is almost contemptuously brushed aside, while in others it is dealt with empirically and without sufficient elaboration to establish full confidence that, under certain conditions, certain drugs, if administered in certain combinations and in a certain way, may be depended upon to give certain results. Pathology provides the working hypothesis, but the practical application depends upon the proper adaptation of means suitable for the transmutation of theory into accomplished fact. The *vis medicatrix Naturae*, of which so much is glibly spoken, is an inherent power which Nature possesses for the rectification of errors and abnormalities in the working of vital processes, but the guidance of this beneficent law by the application of the dietetic, hygienic, and therapeutic discoveries of man to the rectification of organic and functional departures from the standard of perfect health is no less essential than the control by corresponding scientific regulation of heat, light, or electricity to the requirements of humanity. Diet, hygiene, climatic influence, and habits of life receive general recognition as factors which demand consideration, but the use of drugs is still a territory of doubt and suspicion, explored with precision and faith by a comparatively small number of practitioners. This is partly accounted for by the disappointment that ensues upon the failure of pretentious advertisers and over-credulous enthusiasts. It is also due, in some measure, to the impossibility of reducing drug administration to terms of strict and unalterable accuracy. But, when allowance has been made for all this, another important and regrettable factor must be admitted to be the inadequate recognition of therapeutics as a fundamental subject of study and investigation in the training of the medical student.

If we now turn to the consideration of a kindred topic, namely, the apparent divorce which is taking place between pharmacology and therapeutics, it will be found that there is much which must arouse concern. It must be asked, perhaps, whether there are really any signs of such alienation; is it true that pharmacology is tending to travel along lines different from those along which therapeutics must proceed? If we consider the subject of the treatment of infection and its effects, which has been, is, and always must be, one of the most important matters for the physician, we shall find that the pharmacologist is disposed to seek for agents which shall have the power of *relieving* the various *symptoms* produced by infection. Antipyretic remedies loom largely on his horizon. There is scarcely a medical student who, if interrogated as to the treatmsnt of what we call rheumatic fever, would hesitate to say that sodium salicylate or its allies are the drugs to prescribe, and he carries the idea out in practice most thoroughly. Just as surgery has taught medicine how to treat cases of appendicitis and gastric ulcer, so, too, it has given salutary lessons in the use of antipyretics. When called into consultation by the physician, the surgeon too often has to keep an eye upon his colleague as well as upon the patient. Has opium been given or any drugs which are masking the existence of pain or fever? These are questions to which too often the physician must give an affirmative answer.

The pharmacologist, shut off from access to the bedside, continues, if we may judge by the literature most prominently brought to notice, to spend most of his time in the analysis of the mode of action of antipyretics and anodynes, of their toxic symptoms, and even possibly of the ways to counteract such symptoms when they arise. His colleague the physician, who, as the literal derivation of the word "therapeutics" originally indicated, is the servant and attendant of the patient, no longer relies on the use of antipyretic remedies, or at most administers them very sparingly.

Again, if we take the very interesting and practical therapeutic problem of the treatment of anaemia, a gulf seems to yawn between the pharmacologist and the therapeutist. The former enters into a discussion of the action of iron and arsenic, alone or combined, upon the healthy animal, but not often does it happen that it is his daily duty to deal with the pathology and clinical aspect of cases in which anaemia is an important symptom. He knows the effects produced when iron or arsenic is administered to animals, but as to the effects of these two drugs in disease he can but quote the opinions of physicians who say they have seen improvement follow the administration of such remedies. That there is ground for criticism of the point of view as to the treatment of anaemia which the student may learn from the pharmacologist, is shown by the fact that at the bedside improvement and even cure are now secured by attention to the teeth, by the discovery and cure of an occult peptic ulcer, and by such reasonable procedures as the cure of leucorrhoea by douches and of metrorrhagia by curettage. The way in which

the facts of pharmacology are now brought to the notice of the student is not calculated to impress on his mind the fact that chlorosis and pernicious anaemia are but symptomatic of primary conditions which pathology, slowly perhaps, but surely, is showing to be amenable to principles of treatment not within the domain of the pharmacologist. The pharmacologist seems indisposed to tear himself away from the investigation of such active principles as atropine, physostigmine, conium, and the like. No doubt such agents have their use, but will any practical clinician hesitate to admit that their therapeutic applicability falls far short of their pharmacological interest?

We must seek a remedy for the anomalies which exist. The pharmacologist has a great future before him, but he must be prepared to turn attention, his own and that of his pupils, to the problems which beset the study of infection; in the past he has leaned on physiology for inspiration, but in the future, while this alliance must continue we must ask that he shall be more ready to enter into the difficulties, more disposed to follow closely the development of thought and practice in therapeutics, and, while not relaxing his endeavour to add to our materia medica, to make it more suitable as a means of cure. The physician, too, must learn from the pharmacologist, and will, perhaps, be the more ready to do so, for he already knows that he must take off his coat and turn up his sleeves, not only metaphorically, but actually, and give much of his energy to the study of subjects like immunity and chemical pathology, as the foundation stones, with pharmacology, of the therapeutic structure.

It may be asked how the happy conjunction of clinical observation and rational therapy is to be brought about. In a few cases, a gifted clinician is able, by his reading and by his power of work, to combine these studies, but when the clinical teacher is not able to do this, he should be able to command the active co-operation of a pharmacologist, of a bacteriologist, and of a pathologist. Such a conjunction would not only benefit the teacher, his patients, and his students, but would prevent his more purely scientific collaborators from being "sterilized" by the too exclusive devotion to the particular and necessarily somewhat narrow field in the cultivation of which he is a specialist.

A CASE OF "BLOODLESS SURGERY."

One of the most important points in the action Thomas *v.* Barker, a report of which appeared in the British Medical Journal of March 4th, is the fact that such an action should have been brought. As a rule persons who have suffered injury at the hands of bonesetters or other irregular practitioners are ashamed to expose their folly to the fierce light that beats about a judge's seat. Naturally from the bonesetters as from other empirics, we hear much of their successes but nothing at all of their failures. It is the frankness in recording their whole experience, extenuating nothing nor setting down aught in malice—for the purpose of self-advertisement—that makes the difference between the scientific worker whose aim it is to advance scientific truth and enlarge the scope of the healing art, and those whose primary object it is to make personal profit of any manipulative dexterity they may have acquired. These are restrained by no rules of professional ethics from vaunting their own skill and achievements, and this with the mass of people gives them a great advantage over members of a profession who are bound by its rules. In the one case the appeal is made to ignorance, and therefore the loudest trumpeting is the most effective; in the other, methods and facts have to be brought before the bar of scientific judgement, where evidence is closely sifted and statements subjected to searching criticism. With the public, therefore, the bonesetter has much in his favour; it only hears of his successes. On the other hand, it is chiefly the failures, real or supposed, of the doctors that come before the public.

It is recognized by all surgeons that manipulation applied in the proper way and in suitable cases gives good results in many cases, especially where stiffness is caused by adhesions following injury. In such cases what an eminent surgeon used to call "judicious violence" will often effect a cure; we have, however, seen bones fractured and joints laid open even by skilled surgeons. In these cases there was no question of disease in the joint; the disability was purely mechanical.

It is an obvious reflection that if such accidents may happen in the hands of men whose knowledge has taught them the dangers to be guarded against in breaking down adhesions, these dangers must be far greater when the operator is, to use Sir Edward Carson's description of his client, a "mere manipulator of joints." The sphere of "bonesetting" is, in fact, extremely limited as far as the range of its manipulations is concerned, and it cannot be too strongly impressed on the public that disease of the joints lies altogether outside that sphere. Even if it were admitted that many cases of joint diseases are the mere despair of surgery, at any rate the properly-trained surgeon may be trusted not to make the evil worse by mischievous manipulation.

We need not say much about the case recently tried before Mr. Justice Darling. Without touching upon contested matters, we only call attention to certain points admitted by Mr. Barker, or put forward on his behalf by his counsel. Mr. Barker himself stated that the result of his first examination satisfied him that there was no question that Mr. Thomas's knee was in the most advanced state of tuberculosis. This being the case, it is somewhat remarkable that, as he himself admitted, he told the plaintiff's sister that the joint was probably sarcomatous. He also wrote on April 13th, 1910, to the plaintiff when compensation was claimed, that "it looked as if sarcoma were present." Yet he had written in his appointment book on November 25th, 1909, "Tubercle; no hope." When confronted by Sir Edward Clarke with these contradictory statements, Mr. Barker said he was not an authority. Two or three days before the trial, however, he had written in the *Times* of February 18th that "no one with even ordinary discrimination or the vaguest knowledge of etiology or pathology could mistake a case of, say, tuberculous arthritis for simple traumatic adhesions or be guilty of forcibly manipulating a diseased joint." Mr. Barker stated in court that "as a rule he did not bother himself about tubercular cases." Nevertheless, "partly" (to use the words of Sir Edward Carson) "because the plaintiff was in such distress, partly because the plaintiff assured him he was a medical student, and partly because he hoped the swelling would in the meanwhile be reduced by radiant heat baths," he consented to see

Mr. Thomas again from time to time. So great is Mr. Barker's consideration for medical students that he kindly reduced his fee to five guineas for an examination from his ordinary figure of ten guineas. Perhaps the particular medical student for whose pocket he showed such tenderness would have more appreciated a little more regard for his knee-joint.

It is not altogether easy to make out from Mr. Barker's evidence or that of Mr. Axham, who administered gas for the examination, what was actually done. Mr. Barker admitted that his notes of the case had been "elaborated" and amplified, and that they were in fact "not exact." In his letter of April 13th he had stated that "he could do no more than give treatment under gas." In court he stated that he merely slightly moved the joint to make his examination. On being asked by the judge why, if it was a case of tuberculosis on November 2nd, there was any need to administer gas on November 27th and December 16th, he said he wished to see the displacement both [for his own satisfaction and the patient's benefit; but on his own showing he thought the patient could not derive any benefit from his treatment.

Mr. Barker stated that he had treated 30,000 cases, in 90 per cent. of which he had effected a cure. His counsel claimed an even larger proportion, 94 per cent., but we need not dwell on this trifling discrepancy. As M. Clemenceau said of an orator who dealt in round numbers of imposing magnitude, *Il a le chiffre généreux.* In the letter published in the *Times* of February 18th, Mr. Barker says he has been in practice nearly twenty years, and in the handling of some thousands of cases has not heard of one disaster. It must again be pointed out that this was written just before the action; it would seem, therefore, that Mr. Barker does not consider the loss of a leg a disaster. He used to call his speciality "bloodless surgery"; is amputation to be looked upon as one of the natural results of this art?

It is an interesting coincidence that for some weeks before the trial the public had the advantage of reading in the press an encyclical from that pontiff of unorthodoxy in medical science, Mr. W. T. Stead, praising Mr. Barker and anathematizing the doctors. Mr. Barker, as we have seen, overstepping the natural modesty of his nature, wrote in praise of himself. We do not suggest, of course, that these utterances were intended to predispose the public mind in favour of a benefactor of mankind unjustly accused of having caused a disaster of the very nature Mr. Barker in his triumphal career had never heard of; but there is no doubt that the press paeans were remarkably opportune.

A particularly gratifying feature in the case is that there was, as Sir Edward Clarke pointed out, no conflict of medical testimony; the witnesses called on Mr. Barker's behalf confirmed that of the others in all essential particulars. Even the gentleman who administered the anaesthetic stated that he had expressed regret that Mr. Barker had taken up the case. We are sure that all unprejudiced persons who read the evidence must have agreed with the verdict of the jury. Mr. Barker professes to be anxious to make his methods known to the medical profession. He writes, in the *Times* of February 18th: "To reject such evidence as I can furnish as the result of many years of study and experience may be in accordance with medical etiquette and procedure." We take it upon ourselves to say that the profession would not reject such evidence if supplied with the guarantees demanded of its own members. May we suggest to Mr. Barker that the first step towards gathering evidence that will be considered by the medical profession should be to keep accurate records of his cases, not elaborated after the event?

THE "COVERING" OF UNQUALIFIED PERSONS.

A RECENT case under the Midwives Act which came before the magistrates in Manchester must be regarded as containing a serious warning to medical practitioners as to the danger they may unwittingly run of being charged before the General Medical Council with "covering" unqualified persons if they allow themselves to be drawn into any co-operation with women who "habitually and for gain" attend cases of labour without being registered under the Midwives Act. The case was one in which was concerned a midwife who at one time was registered, but who for some offence had been struck off the roll. In spite of this, she appears to have continued to practise as a midwife, regardless of the fact that since last April it has been illegal for any unregistered person to attend confinements "habitually and for gain." She was accordingly charged with the offence and, on conviction, was heavily fined. In her defence, she stated that she had made it her practice in cases that she attended to call in a medical practitioner, and she thought that was a sufficient protection and excuse. But it appeared from the evidence that in most of the cases mentioned no practitioner had been present at the time of the confinement, though one had been summoned and had visited the cases on the following day. She was asked if she wished to call any medical man to give evidence, but she declined. In imposing a fine, the magistrate remarked that it would appear from the evidence given that she was not the only person to blame, but that she had been assisted in breaking the law by some medical man. No medical man was present to give evidence in his own defence, or an adequate explanation might have been forthcoming, but the remarks of the magistrates are sufficient to act as a warning. There is nothing in the law to prevent any neighbour or friend on an odd occasion attending a woman in her confinement and even receiving payment for so doing; neither is there anything that can prevent a medical practitioner going to the assistance of such a neighbour or friend or any other unregistered person if anything serious occurs. It appears from this case, however, that as far as the unregistered person is concerned everything depends on the court's interpretation of the words "who attends habitually and for gain," and, in a secondary way, to some extent the position of the medical man as regards his liability to a charge of "covering" also depends on this. In other words, if a medical man repeatedly goes to the assistance of an unregistered person who habitually and for gain attends confinements, he is certainly liable to be charged with "covering." Moreover, it seems to be regarded as doubtful whether it would be a successful defence to say that he did not know that such person was unregistered and yet habitually and for gain attended cases on her own responsibility. At any rate, the pitfalls, as shown in the case at Manchester, are sufficiently numerous to make it incumbent on every practitioner to satisfy himself as to the status of any nurse who repeatedly calls for his assistance; and it may even be found to be necessary, if only in self-defence, to report to the Midwives Supervising Authority if he is repeatedly called to assist any particular nurse or supposed midwife without receiving the official form for calling in medical aid with which registered midwives are

supplied. The same dangers occur in going to the assistance of ordinary sick nurses in some parts of the country. In Manchester and Salford the district nurses are not allowed to attend any cases except under medical orders and supervision, but in some parts of Lancashire district nurses do attend on their own responsibility what are regarded as simple cases, only calling in a doctor if the case becomes, as they suppose, serious; the position of the medical practitioner as regards "covering" in these cases would seem to be in many respects similar to that in which the Manchester magistrate made such pointed remarks. To say the least of it, the situation is one of considerable danger to practitioners under such circumstances. The rule of the General Medical Council against "covering" is designed to protect not only the public but the profession against the evils of practice by unqualified and unregistered persons, and in the case of midwifery, apart from any personal risk to the medical man himself, the Midwives Supervising Authority may quite rightly expect him to lend such assistance to the authority as comes within his power to prevent the practice of midwifery by unregistered women.

DILETTANTE HYGIENE.

THE latest annual report of the Governor of Jamaica to the Secretary of State for the Colonies contains some notable observations on medical matters. Alluding to a statement of the Superintending Medical Officer that the adult population of Jamaica is almost entirely unprotected against small-pox and his suggestion that steps should be taken to remedy this position by revaccination at puberty, the Governor not only condemns the suggestion as beyond the scope of practical politics, but goes on to express the opinion that possibly the island would be better advised if it devoted the money at present spent on infant vaccination to the isolation of cases of yaws and syphilis. These, together with malarial fever, typhoid, and vomiting sickness, His Excellency concludes to be the diseases most troublesome to the community in Jamaica by the simple process of counting the number of times they are mentioned in the reports of the various district medical officers. His observations become hardly more impressive but certainly less surprising when, on turning to *Who's Who*, one finds that the present Governor of Jamaica describes his recreations as "the normal forms of loafing and dilettantism." Since Jamaica enjoys the advantage of a House of Legislature and an active council the Governor's enjoyment of the first of these recreations will probably do it little harm, but the public health must certainly suffer if his amateur views on medicine are allowed to prevail. The Fabian policy of waiting upon events seems hardly applicable; we would rather recommend the Curzonian system of intelligent anticipation of events before they occur. We seem, indeed, to remember that some five or six years ago Jamaica had considerable difficulty in grappling with an outbreak of small-pox, and, seeing the importance of its fruit trade with the American mainland, we regard it as folly for the island not to protect itself fully against the disease. A very few weeks of quarantine would cost infinitely more than a proper system of vaccination. Apart from this, the value of the Governor's dictum on the point is sufficiently gauged by the fact that, whereas most civilized countries have managed to establish more or less complete systems of revaccination at puberty, no country yet has ever managed to secure the isolation of cases of syphilis. An island whose public health organization is so far undeveloped that only in about 33 per cent. of all recorded deaths is it possible to obtain a medical certificate as to the cause thereof is certainly not one which should abandon health measures of well proved value to indulge in experiments which much richer and far more advanced communities have shunned.

ECONOMIC ENTOMOLOGY.

THE study of entomology as an applied science is likely to be considerably advanced by the attention now being paid to the subject at the Imperial College of Science and Technology, South Kensington. The Committee of Entomological Research, which was established there not long ago, has proved active, and one of the first steps it took—namely, that of dispatching two experienced entomologists to travel about the British colonies and protectorates in tropical Africa, and to supply any official or any other resident with the necessary apparatus for entomological research and practical instruction therein—has already had good results. The latest step has been to institute a series of lectures on entomology, which is in the hands of Mr. Maxwell Lefroy. Mr. Lefroy, who as Imperial Entomologist to the Government of India has had long practical experience of the subject, delivered his inaugural lecture on March 2nd, and had no difficulty in convincing those present of the value to the community which this new departure is likely to prove. In addition to illustrating the disastrous part which insects play both in the propagation of disease and the destruction of growing and collected crops, he showed that, although entomology as an applied science has been recognized for some twenty years, no adequate attempt has hitherto been made to provide in Great Britain for the practical and scientific training of the large number of men thoroughly skilled in scientific and practical entomology of which the empire stands in need. Mr. Lefroy was introduced to the audience by Lord Cromer, who in the course of his remarks stated that the object of the committee was to stimulate interest in the study and observation of insects in general, and provide facilities for men who desire to obtain a sound general training in entomology as a whole. From his further remarks it would appear that the Research Committee is often asked by colonial authorities and other persons to recommend the names of experienced economic entomologists for work in the colonies. Naturally the number of young men trained in this country who answer that description is very small, for hitherto applied entomology has been treated mainly as a side issue in a general course of agriculture or medicine. The fact that there is an apparent call for work of this order is worth noting in these days of professional overcrowding, especially as many of those who pass successfully through the medical schools have much stronger leanings towards natural science than the practice of medicine.

THE TYPHOID CARRIER.

THE typhoid carrier has been the object of a great deal of attention, both in this country and abroad, for several years past, and only last November we gave some account of a report of Dr. Ledingham to the Local Government Board on the subject. It is, however, one of so much practical importance that it has seemed well to recur to it; we therefore give elsewhere in this issue an analysis of Dr. Ledingham's facts and conclusions. Briefly put, the facts are that the bacilli may be passed, more or less continually, by several classes of persons apparently in good health. The incubation period of the disease may last in an infected person from five to forty-five days, and during this period infection of contacts is probably very common; similarly the discharge of bacilli may

continue for decades after the attack. People in contact with a patient or another carrier may become temporary or chronic carriers without necessarily suffering from the disease. Another most important fact is that some cases presenting symptoms which may lead them to be classed as influenza or diarrhoea are in reality examples of atypical typhoid fever. It is shown that the relationship between gall-stone disease and the carrier state is very intimate—an observation which confirms work done many years ago on the etiology of gall stones. Our conception of the epidemiology, pathology, and even the clinical manifestations of typhoid fever have undergone radical changes, and some very interesting questions are raised by the new knowledge. There is, first, the fundamental problem—the paradox—why should one person be invaded by virulent typhoid bacilli and suffer no ill effects whilst another individual readily falls a victim to the disease? The answer apparently is not that the "carrier" is well provided with immune bodies, for, as a matter of fact, he seems to possess very little of these substances; he, or more often she, is not immune, for a fatal typhoid septicaemia may ensue. The theory elaborated by Wolff-Eisner and others, that the fever and its symptoms result only when the host has elaborated sufficient immune bodies to kill the parasite and liberate the endotoxins contained in its body, offers a possible explanation. Again, the fact that on one occasion alone over 200 individuals were infected by typhoid fever, owing to their milk being polluted with the excrement of one milker, shows how perilously easy may be the path of the bacillus from one man's bowel to another man's mouth. It shows that the campaign for elaborate cleanliness in food preparation, so often urged by the medical press, and so often derided by the general public as a medical fad, is justified in every particular. That other diseases, such as epidemic diarrhoea and dysentery, may be spread in this manner is more than probable. The question of typhoid in children evidently deserves renewed attention; there would seem to be some relation between infantile mortality and the prevalence of typhoid fever in a community. The fact that carriers are often sufferers from gall stones raises the further question, What should we do with our cook when she has an attack of biliary colic? Can we trust the usually obstinate woman to wash her hands so carefully as to secure asepsis in preparing our food? Very few of us would care to do so. The outlook as regards typhoid mortality has improved, for milk epidemics and house endemics can now be nipped in the bud. Domestic and culinary cleanliness must be cultivated, and possibly the working man will take more interest in the disposal of excreta when he learns that his neighbour's intestinal flora is dangerous and liable to reappear on his own tea-table. The German public, it is said, has responded very willingly to the campaign; why should not the English public prove equally ready to learn?

EDINBURGH ROYAL ASYLUM.

THE report of Dr. G. M. Robertson, the Physician-Superintendent of the Royal Edinburgh Asylum for the Insane, contains, as may be gathered from the abstract published on page 584, many passages of interest. None will be read with more attention by medical men than those which refer to the laboratory which is maintained by the managers for the study of the etiology, pathology, and treatment of the insanities. The results of the researches carried on in this and other laboratories in recent years are truly said to have animated asylum physicians with hopeful views of future possibilities to which not long ago they were strangers. One of the most interesting of these possibilities is related in a special note contributed by Dr. Robertson which is incorporated in the article at page 585. On the assumption that one of the factors, perhaps the most active, in the production of general paralysis of the insane is syphilitic infection, Dr. Robertson gave injections of salvarsan in a series of cases. In one presenting acute symptoms the improvement was striking, but in the others without acute symptoms there was little or no change. Basing himself on Ehrlich's view that the action of salvarsan on the *Treponema pallidum* is direct, and that the curative process is due to the liberation from the parasite of specific bodies which give rise to a specific antibody, Dr. Robertson has devised a very interesting method of treating cases of general paralysis in which the symptoms are not acute. In these conditions treponemas have not been found, and the assumption is that they are very few in number, although it is possible that they may exist in the cerebro-spinal fluid, where salvarsan would not reach them easily, if at all; in consequence, the administration of the drug would not be followed by the liberation of the specific protein, and therefore the specific antibody would not be produced. To supply this deficiency, he proposed to use the serum obtained from patients in whom salvarsan has been injected intravenously for the treatment of secondary or tertiary symptoms, for it is known that the serum in such cases is full of antibody. The injection of such serum, therefore, may supply the curative agent owing to the absence of which salvarsan does not produce its beneficial action. The Edinburgh Asylum for the Insane is one of the greatest institutions of its kind in the British Isles, and it is therefore rather surprising to learn that the advantages which it offers to private patients do not seem to be sufficiently appreciated. Such patients are admitted at the rate of £45 a year. For this sum accommodation is provided for persons accustomed to live in comfort and refinement, including members of the professional classes whose incomes have never been large, and who cannot afford the more expensive accommodation of Craig House. This department is to some extent a charity; the loss on it last year was calculated to be over £1,000, but its maintenance is regarded by the managers as one of their highest duties.

MATURATION IN GERM CELLS IN THE OVARY.

SEVERAL matters relating to the early phases of maturation in the germ cells of the mammalian ovary are still subjects of discussion. Dr. Louise McIlroy, who has made use of the ovaries of the pig, puppy, kitten, and human subject, has found[1] that the mammalian ovary has a typical development, the apparent differences being due to the rate of development before and after birth. Some of the differences, and some also of the special descriptive terms in use in different animals, have their origin in the smaller or greater amount of stroma present. It is specially in regard to mitotic changes in the oögonia and in the primary oöcytes that the interest of the research lies, and Dr. McIlroy has come to the conclusion that mitotic changes do not occur in the follicle cells, but only in the oögonia and in what she calls the oöcytes of the first stage, and that multiplication by mitosis ceases altogether at a given time, apparently before or just after birth in the human subject. The oöcytes which are destined for fertilization pass through a number of stages, known as thin spireme, synapsis, thick spireme, double filaments, and the resting stage

[1] *Proc. Roy. Soc. Edin.*, xxxi, pp. 151-178, 1910.

(the familiar germinal vesicle); the resting stage may last for years, and is very prolonged in the human subject. In the stage of synapsis the chromatin filaments undergo a pseudo-reduction. Another somewhat important conclusion reached is that the follicle cells (that is, those of the stratum granulosum) are derived from the oögonia and not from the stroma cells, which are only supporting and vascular. The writer's views regarding the reserve cells, as they are termed, and their power of functioning as follicle or as interstitial cells, are noteworthy. Miss McIlroy obtained no evidence of the presence of cells in the medullary cords which may lead to the formation of primary oöcytes. The glandular structures in the hilum are the remains of the Wolffian and rete tubules. This statement as to the Wolffian tubules is in accordance with the views of Coblenz, Doran, and Bland-Sutton, whilst as to the rete testis homologies she is in accord with the relatively new views of Professor Arthur Keith, who would trace the so-called "parovarian" or broad ligament cyst to tubular homologues of the rete testis in the female.[2] This will remind us that more original research in the domain of ovarian pathology is demanded, as the discoveries made by Miss McIlroy will aid the pathologist in mastering a subject which he has not thoroughly understood up till now—namely, the normal histology of the ovary. On March 2nd Dr. McIlroy gave an epidiascopic demonstration of numerous specimens illustrating the origin of the follicle cells of the ovary, at a meeting of the Obstetrical and Gynaecological Section of the Royal Society of Medicine. The demonstration proved of extreme interest, and it showed what admirable work in the field of original research is now undertaken by British physiologists. The public demonstration of the results of work of this kind is very useful, though study of the monograph itself, with its photomicrographs and main text and summary, will be essential to the specialist.

THE DRESDEN HYGIENE EXHIBITION.

WE have several times appealed for support for the Hygiene Exhibition which is to be held at Dresden from May till October. We are pleased to be able to state that more than half of the £10,000 required to carry out the work has been subscribed. The list shows that the medical profession has responded generously to the appeal. The letter from the Lord Mayor of London which appeared in the *Times* of March 6th will, it is reasonable to hope, be a powerful help to the British National Committee in collecting the rest of the sum needed. Of that Committee the Lord Mayor is President, and among its Vice-Presidents are Sir Thomas Barlow, President of the Royal College of Physicians of London; Mr. Henry T. Butlin, President of the Royal College of Surgeons of England; Sir William Church, past President of the Royal Society of Medicine; Sir William Bennett, President of the Incorporated Institute of Hygiene; Surgeon-General Sir Alfred Keogh, Director of the Imperial College of Science. Among its members are Lord Ilkeston, Sir Lauder Brunton, Professor G. Sims Woodhead, Dr. C. J. Martin, Director of the Lister Institute; Sir Shirley Murphy, Sir William Ramsay, Sir Henry Roscoe, and many other eminent men of science. Lord Ilkeston is treasurer, and contributions should be sent to him at 47, Victoria Street, S.W. The British public is showing its patriotism by its efforts to secure the representation of this country at what may justly be regarded as a meeting of the nations for the furtherance of hygienic science. The *non possumus* attitude taken up by our Government in regard to the exhibition has been the subject of adverse criticism in Germany. In his reply to a question asked by Mr. Byles in the House of Commons, reported in the BRITISH MEDICAL JOURNAL of March 4th, page 519, the President of the Board of Trade expressed the conviction that no fair-minded person could possibly have interpreted the refusal of the British Government to give a grant in aid of the British exhibit at Dresden as a slight upon the German nation. How Mr. Buxton could have arrived at such a conviction we cannot conjecture. On August 6th the *National Zeitung*, one of the leading newspapers of Germany, referred sarcastically to the "remarkable sidelight" thrown on the friendly feelings entertained by England for Germany by the refusal of our Government to take any part officially in the Dresden Exhibition. Again, so recently as March 2nd, the editor of the *Deutsche medizinische Wochenschrift*, commenting on the reply of the President of the Board of Trade to Mr. Byles, said: "It is obvious from this Ministerial explanation that the Government has not rightly estimated the importance of the Dresden International Hygiene Exhibition. . . . The result will be that England, as compared with other nations, will be at a disadvantge at the Dresden Exhibition." From every point of view but the purely commercial one, the Dresden Exhibition is of far greater importance than those which are to be held at Brussels, Buenos Aires, and Vienna in 1910, and at Rome and Turin in 1911. Yet to all these the Board of Trade has given its official support. Mr. Buxton has indeed assured the committee of the "profound interest taken by His Majesty's Government in any project for the advancement and diffusion of scientific knowledge with regard to matters relating to the health of the community." The Premier also said smooth things to the same effect to a deputation headed by Lord Ilkeston which waited upon him on February 28th. But the Government will not translate its fine sentiments into hard cash. The committee therefore will, like the Major in *Patience*, have to be contented with its heart-felt sympathy. Something better than mere otiose blessings might have been expected from a Cabinet which numbers among its most active members Mr. John Burns, whose invaluable work at the Local Government Board shows how well he understands everything connected with the maintenance of the public health and the development of hygiene.

INCOME-TAX REPAYMENT CLAIMS.

THE 5th day of April is the latest day for the admission of certain claims of repayment or adjustment of income tax. Some account of the claims that may now be made by persons who have not had the full relief due to them in certain directions may therefore be found useful. Claims in respect of the abatements of £70 to £160, allowance for life assurance premiums and total exemption may be made within three years of the expiration of the fiscal year to which they relate, so that it is now open to taxpayers to prefer such claims for the four years 1907–8, 1908–9, 1909–10, and 1910–11. The necessary forms in each case, which are comparatively easy of completion, may be obtained from the local surveyor of taxes, whose address will be ascertainable from the collector of King's taxes. It should be borne in mind that from whatever sources the income is drawn a person with a total income not exceeding £700 is entitled to have a certain portion, varying from £70 to £160, free of tax.

[2] A Demonstration of Specimens illustrating Cysts of the Female Appendages, *Journ. Obstet. and Gynaec. of British Empire*, October, 1910, p. 246.

Similarly, a reduction is due on account of life assurance premiums to an extent not greater than one-sixth of the assessed income, no matter from what source the income be derived. As an extreme example we may take the case of a junior partner to whom no allowances for abatement or life assurance premium have been made, and whose share of the firm's assessment for the year 1908–9 was £180. Suppose him to own the house in which he resides, assessed to property tax at £60 and to have paid £40 in life assurance premiums. The total income in such a case for the year 1908–9 would be £240, and the partner would be entitled to repayment of tax at 1s. in the £ on £160 "abatement" and £40 for life assurance premium, making a repayment of £10 for the single year. There are other classes of adjustment for which the full period of three years is not allowed and for which it is advisable to put in a precautionary application as soon as there are indications that occasion for a claim may arise. It is not now possible to get relief on the ground that the profits of a particular year fall short of the amount of the assessment for that year, *unless* such falling short is due to a succession to another person's practice, or to a change in the *personnel* of a partnership. Where these conditions exist, or where the practice (1) is an entirely new one set up within three years, or (2) has entirely ceased, a claim may be made for adjustment of the assessment (by way of repayment) to the amount of the actual profits of the year. There is a further description of claim that may be found beneficial to medical men with income from taxed sources, who, whether through setting up a new practice or from other causes, are carrying on their profession temporarily at a loss. In such cases it is open to the practitioner to claim repayment of income tax to the extent of the loss as against the tax that has been deducted from his other income, and if by this operation the residue of his income for that year is reduced below £160 he can claim repayment of the balance of the tax on the ground of exemption. Claims of this nature are usually admitted within twelve months of the close of the fiscal year to which they relate. Notices of claim, as in other cases, are required to be given to the surveyor of taxes.

RHEUMATISM AND SUPPURATIONS IN THE URINARY TRACT.

IT has been contended that certain cases of chronic inflammation of the urethra and ureter, not traceable to gonorrhoea and other well-known diseases, may be due to tonsillitis. This theory was the theme of a communication read last December by Dr. Hunner of Baltimore, at a meeting of an American medical association.[1] He argued that in such cases the inflammation of the urinary tract was set up by infections or toxins from the tonsils; the importance of this fact would only be appreciated when it was recognized that urethritis at least could not be permanently cured until the tonsils were thoroughly extirpated. He reported some cases thus treated, admitting that all were not absolutely successful. The patients were women. Dr. Hunner also noted that the fact that acute prostatic abscess sometimes followed inflammation of the tonsils suggested a possible relationship between the tonsils and certain cases of chronic urethritis in males. In the discussion it was hinted that the theory in question might lead to excessive tonsillectomy unless the practitioner could determine with accuracy the nature of a local infection of any kind and its focus. Howard Kelly reported an instance in which a married lady had been under his care and observation for fifteen years. Careful inspection of the urine revealed pus in varying amounts; so far as the local conditions were concerned the patient was without symptoms, but she had been subject to rheumatism for twelve years, and had enlargements of the joints. Dr. Kelly used the ureteral catheter and found that pus came from the left kidney, which he washed out after dilatation of the ureter. There was some temporary benefit, but the kidney became large and tender and much pus appeared in the urine. The organ was therefore drained, and Dr. Kelly did a plastic operation on the semilunar ureteral valves, cut down on the fascia at the end of the ureter, and drained from the side. The drainage gave some relief, but the rheumatism continued. Dr. Kelly therefore removed the kidney and the "rheumatism disappeared like magic." That there is a relation between tonsillitis and rheumatism is well recognized.

[1] Transactions of the Southern Surgical and Gynaecological Association. *Amer. Journ. Obstet.*, February, 1911, p. 306.

THE "℞" OF PRESCRIPTIONS.

HOW many medical men when, in accordance with immemorial custom, they head their prescriptions with the symbol "℞," know that they are unconsciously perpetuating the practice of invoking the aid of Jupiter to the efficacy of their drugs? This, which has long been the accepted view, is supported by Dr. R. M. Lawrence in a chapter of his recent work on *Primitive Psycho-therapy* devoted to the subject of ancient medical prescriptions. Dr. Lawrence believes that the medical ℞ is a synthesis of the initial R of recipe and of the symbol ♃, which is one of the astrological denotations of the planet Jupiter. "From very early times," he says, "it was a universal custom to place at the beginning of a medical prescription certain religious verses or superstitious characters, which formed the invocation or prayer to a favourite deity." A counter claim has recently been made on behalf of the Egyptian sun god Ra, but does not seem to be well founded. It appears that the astrological signs were thus introduced in the reign of Nero, and Dr. Lawrence infers that Christian physicians may have been constrained to conform to the pagan practice of prefixing to their prescriptions invocations to Jupiter. The language teemed with words—for example, "jovial," "mercurial," "saturnine," "disastrous"—testifying to the former universality of the belief in planetary influences. Among the various interpretations of the symbol ℞, that of Johan Michael Moscherosch (1600–69), also cited in the work mentioned above, is more humorous than complimentary to the faculty. He maintained that it is equivalent to *Rec.*, an abbreviation standing for *per decem*. The appropriateness of the denotation was attributed by him to the fact that one prescription in ten might be expected to prove beneficial to the patient. The symbol "℞" was not always universally employed, however, even during the Middle Ages. Dr. Otto Wall, in his work entitled *The Prescription*, states that during the sixteenth century physicians, either through piety or in fear of the Inquisition, frequently used the sign of the Cross as a superscription. Others replaced the symbol of Jupiter by the Greek letters AΩ; J. D., for *Juvante Deo*; C. D., for *Cum Deo*; or N. D., for *Nomine Dei*. Whatever conclusion may be formed as to the origin of the symbol now in vogue, there can be no doubt that the physicians of antiquity commonly headed their prescriptions with an invocation to some deity, nor, therefore, of the correctness of Dr. Lawrence's contention that "modern medical prescriptions may be classed as the lineal descendants of the healing spells of former ages."

Sir Arthur Chance has been elected the Representative of the Royal College of Surgeons in Ireland on the General Medical Council vice Sir Thomas Myles, whose term of office expired on February 23rd. Sir Arthur Chance, who is surgeon in ordinary to the Lord Lieutenant and senior surgeon to the Mater Misercordia Hospital, was president of the college from 1904 to 1906.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

Small-pox in London.—In answer to a question put last week by Mr. Cooper, Mr. Burns stated that from January 1st to the evening of February 27th, 41 cases were notified and removed to the Metropolitan Asylums Board's Hospitals. Of the 36 cases in the hospitals of the Asylums Board on Sunday evening last 29 were vaccinated and 7 were unvaccinated. In 24 of the cases the vaccination was performed more than fifteen years ago, and in 2 others at least ten years ago. The 3 other vaccinated cases were those of children, and the attack was said to be mild. In answer to later questions, Mr. Burns stated that since the beginning of the present outbreak 47 persons had been admitted at South Wharf; 3 of these had been found not to be suffering from small-pox; 43 cases, notified as small-pox, had been sent to Joyce Green—one case remained at the Wharf. Seven of the cases notified were persons employed at the Mile End Infirmary (five as nurses and two as scrubbers). He could not give the age and vaccinal condition of each patient, as these particulars had not yet been verified; but it was stated that of the 44 patients 6 were 5 years of age or under, and of these 3 had not been vaccinated, 3 were vaccinated in infancy, 2 had been revaccinated since the onset of the disease. Seven were between 5 and 15 years of age, of whom 1 had not been vaccinated, 5 were vaccinated in infancy, 1 case was doubtful; 4 cases had been vaccinated since the onset of the disease. Fifteen were between 15 and 30, of whom 2 had not been vaccinated, 12 were vaccinated in infancy, 1 was doubtful; 8 of these had been revaccinated since the onset of the disease. Sixteen were cases of persons over 30, of whom 14 were vaccinated in infancy; 2 cases were doubtful; 10 cases had been vaccinated since the onset of the disease. There had been 1 death—a case of an unvaccinated child of 3 years.

The Council Schools and the Small-pox.—On Monday last Mr. Ramsay Macdonald asked whether any inspection of school children attending London County Council schools to ascertain the vaccinal condition of such children had taken, or would take place; whether it was proposed to exclude unvaccinated children from such schools; whether such action was in accordance with the regulations of the Board of Education; and what action he proposed to take in the matter. Mr. Runciman said that he had no definite information as to any action which the London County Council had taken, or were about to take, to ascertain whether children in public elementary schools had or had not been vaccinated. He had several times expressed his view on the matter, and might refer the hon. member to an answer which he gave in the House on October 14th, 1910, when he said that: "I strongly deprecate any attempt on the part of local authorities to use the machinery of medical inspection for the purpose of enforcing vaccination. Such action is likely to discredit medical inspection in the eyes of many parents who would otherwise be glad to take advantage of it." With regard to the second part of the question, he had no information as to any proposal to exclude unvaccinated children from the schools. In the circumstances the third and fourth questions did not arise. Asked whether, in the face of the epidemic, he would not reconsider his advice, Mr. Runciman said that he had no intention whatever of altering his advice. The case of epidemics was fully dealt with in the code.

Vaccination.—In answer to Dr. Hillier, who asked as to the number of exemptions from vaccinations, Mr. Burns said that he was not at present able to supply figures for the whole year. During the first half of the year, however, 456,533 births were registered and 110,851 exemption certificates were received. In answer to Mr. Sutton, who asked about the death of a child named Fisher after vaccination, Mr. Burns said that the circumstances had been investigated by one of the medical inspectors in January last. The lymph which was supplied belonged to a series of which 1,629 tubes were despatched, and no complaints had been received in regard to other cases for which the tubes were used. The same public vaccinator vaccinated five other infants with the same lymph without any abnormal effects. The correctness of the view expressed at the inquest that generalized vaccinia was extremely rare, was supported by the fact that, although during the two years 1909 and 1910, over a million vaccinations were performed, only two cases were known to have occurred. He did not think it necessary to take any further steps in the matter.

Vaccination and Small-pox Hospitals (Scotland).—Mr. Munro-Ferguson asked the Lord Advocate whether it was the view of his department that vaccination no longer deserved encouragement, and that the best precaution against small-pox was an ample provision by local authorities of small-pox hospitals; and whether the Government intended to make any contribution towards the cost of providing small-pox hospitals. Mr. Ure replied that the view suggested was not that of the Government, nor was there, so far as he was aware, any fund out of which the suggested contribution could be made.

Invalidity Insurance.—Mr. Booth asked the Chancellor of the Exchequer if he was in a position to say when the information given to a representative of the Manchester Unity of Oddfellows respecting proposed legislation for State insurance of sickness and invalidity would be at the disposal of the House. Mr. Hobhouse replied that the information given to a representative of the Manchester Unity of Oddfellows was in the nature of confidential and provisional suggestions put forward at an informal conference, and it would be exceedingly undesirable to publish them at a time when he was inviting suggestions from all quarters as to his scheme for State insurance against sickness, invalidity, and unemployment.

The International Plague Commission.—In answer to a question put by Mr. Chancellor on Monday as to the methods of investigation of the Commission, Mr. Burns said that the International Plague Commission, which had been appointed on the invitation of the Chinese Government, would meet at Mukden on April 3rd, and, as at present arranged, would sit from two to five weeks. Dr. Farrar, the British representative, would arrive in the country some time earlier than this, so that he might make himself personally acquainted with the local conditions. He was not at present aware of the precise nature of the methods of investigation which the Commission might decide to adopt. In answer to the suggestion that he should send out a sanitary engineer, Mr. Burns said that he did not think it necessary to do so.

Measles Outbreak among Naval Cadets.—Mr. Tyson Wilson asked the Home Secretary whether he was aware that the uniforms for the naval cadets at Dartmouth and Osborne were made to a very great extent by home-work in the district of Portsmouth; whether he was aware that there had been in that

district over 200 cases of children being absent from the schools this year on account of measles; and, whether, in view of the recent outbreaks of measles in the Dartmouth and Osborne naval colleges, he would have a searching inquiry made as to whether the uniforms referred to were made under proper healthy and sanitary conditions. Mr. Churchill said that he had received the following information from the factory inspector for the district: About 85 per cent. of this work was done by a single firm, which employed thirty-five out-workers. Twenty-seven of these were occupiers of workshops which were periodically visited by the factory inspectors and officers of a local authority, and the sanitary conditions of which were satisfactory. Eight were out-workers in the ordinary sense; their premises, which were subject to inspection by the local authority, were frequently visited, and the medical officer of health considered them to be satisfactory from the point of view of health. No cases of school children suffering from measles had been reported in connexion with any of these premises.

The Shops Bill was introduced on Monday last by the Home Secretary, and is backed by Mr. Masterman, Mr. Herbert Samuel, and the Solicitor-General. It is understood that the bill will be pressed on by the Government, and, if possible, passed this session. The new bill will be found to be not weaker than its predecessor of 1909, but more elastic, and the peculiar interests of special trades are provided for. There is a general desire that the hours and conditions of labour of shop assistants in retail trades should be properly regulated, and the deputations received by the Home Secretary have enabled him to consider carefully the whole question and introduce a measure that has a good chance of passing.

Motor Spirit Duty (Medical Practitioners).—Mr. Ginnell asked the Secretary to the Treasury if a medical practitioner in claiming rebate of motor spirit duty was not bound to prove payment of duty by manufacturer or dealer, would he explain why the rebate due to Dr. Gibbon of Mullingar in respect of 1909 and 1910, duly claimed and vouched, had not yet been paid, and had in effect been refused; and, as many cases depend upon this one, would he say when payment would be made in all those cases of overdue rebate. Mr. Hobhouse said that a claim for rebate of motor spirit duty in respect of 1909 had been made by Dr. Gibbon of Mullingar, but had not been allowed because the firms who were stated to have supplied the dealers from whom Dr. Gibbon purchased the spirit could not show to the officers engaged in testing the validity of the certificates of sale that duty had been paid to the Crown on the spirit in question. Two claims for rebate in respect of 1910 had also been made by Dr. Gibbon. Payment of these claims had been delayed because the certificates submitted with the claims were incomplete. It was expected, however, that the claims would be decided upon at an early date.

White Bread and Physical Degeneracy.—In answer to a question by Mr. Charles Bathurst, Mr. Trevelyan said that the Board's medical officers had expressed no opinion as to the relation between the consumption of bread of any particular character and decay of the teeth. The best hope of arresting tendencies to physical degeneration appeared to the Board to lie in the development of the school medical service and of school hygiene in its various aspects. In this connexion the Board relied upon the efforts of local education authorities, care committees, and others to secure the co-operation of parents. The Board did not propose at present to attempt to deal with the matter by means of the issue of syllabuses, but the whole subject was engaging the earnest consideration of the Board.

Phosphates in Flour.—Mr. Lonsdale asked last week about the adulteration of flour with phosphates, and Mr. Burns replied that he was expecting to receive at an early date the report of the officer who had been investigating the question of flour. When he had received it, the whole question would have his careful consideration. Since his hon. friend had asked a similar question five months ago he had deemed it advisable to extend the scope of the inquiry. He was glad to say that the whole report would probably be out next month. The interest that was being taken in this question was due to the fact that the Press ascertained that he had appointed two officers to make this investigation eight months ago.

Flannelette Wearers Burnt to Death.—Mr. Theodore Taylor asked the Home Secretary whether he was aware that in England and Wales 700 persons were annually burnt to death owing to flannelette garments catching fire; that during the months of November, December, and January last over 400 persons were burnt to death in consequence of their clothing catching fire; and that it was possible to treat flannelette in such a way as to render it permanently resistant to flame; and whether the Government contemplate the introduction of any legislation as a result of the evidence presented to the coroners' committee on this question. Mr. Churchill said that the figures referred to had not been brought to his notice, and he did not know on what authority they were given. From the Registrar-General's last returns, which were based on coroners' certificates, it would appear that in 1909 the number of deaths from burning clothes was 689, but only in seventy-three cases was it stated that the clothing was made of flannelette. As regards the possibility of treating flannelette in such a way as to render it permanently resistant to flame, he must refer his hon. friend to the findings of the coroners' committee on the point. He feared there was no prospect of legislation on this question during the present session.

The University of Wales Bill was introduced last week by Sir David Brynmor Jones and read a first time. It is backed by Lord Ninian Crichton Stuart, Sir Herbert Roberts, Sir Francis Edwards, and Mr. Ormsby-Gore. It is described as a measure to define and enlarge the rights of graduates in medicine of the University of Wales, but is not yet printed.

American Meat.—Mr. Hunt asked whether, according to American statistics, hundreds of thousands of carcasses of animals were marked as fit for human food from which parts affected with disease had been removed, and what steps were taken to detect imported tinned or preserved meat derived from such carcasses. Mr. Burns replied that he was aware of the American statistics and referred to answers he had previously given. He afterwards added, in reply to further questions, that each case was dealt with on its merits or its demerits, and all he could say, as a general answer, was that the Liverpool shipowners, representing 33 per cent. of the shipping of the United Kingdom, were complaining of what they term the excessive stringency and zeal with which the Board were administering the Food Regulations Act of 1908. In certain cases no objection could be raised on health grounds to using as food the carcasses of cattle from which some parts had been removed. On Tuesday Mr. Hunt asked about the supply of meat to the British army, and the Secretary of War assured him that all necessary precautions were taken to ensure that frozen meat for the army was perfectly good and fit for consumption by the troops. Preserved meat canned in America for army contracts was prepared under the supervision of expert army corps' officers, who also inspected the cattle before and after slaughter.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The King Edward Memorial.

The special committee appointed by the Glasgow Corporation to report as to the form which the national memorial to the late King Edward should take has unanimously agreed to the following recommendation: That the proposed Scottish national memorial should take the form of a crusade against consumption, and that the Executive Committee in Edinburgh should take into consideration the rescinding of their proposal for the Holyrood scheme in favour of such a crusade, the bringing of such a scheme before the Scottish people for their approval, and the raising of a fund of £500,000 to initiate the scheme.

The Notification of Infantile Ophthalmia.

The Glasgow Town Council has decided that steps be taken to have infantile ophthalmia placed in the list of those compulsorily notifiable under the Infectious Diseases Notification Act within its district. The motion that the matter should be discussed by the Health Committee was made by Councillor Dr. Erskine, and it is on its recommendation that the council has decided. A special meeting must be called to order the disease to be added, and the Local Government Board must approve of the order before it comes into force on May 1st, the date decided upon.

The Decline of Tuberculosis in Scotland.

Professor Matthew Hay, of Aberdeen University, says in a report which, as medical officer of health, he has furnished to the Town Council of Aberdeen, that he has been for some years collecting information regarding the conditions of the prevalence of tuberculosis in that city. Speaking of the causes of the decline in the mortality from tuberculosis, Dr. Hay says that the decline has been going on in Aberdeen for at least fifty years, although it did not begin to be felt in Scotland as a whole until after 1870. It began earlier in towns than in rural districts. It had not been due to changes in diagnosis and to the labelling, in recent years, as bronchitis or asthma cases that would formally have been diagnosed as phthisis. The decline began long before the germ origin of tuberculosis had been demonstrated by Koch, although the infectious character of the disease had never been without believers; but, what was more remarkable, the rate of decline was almost as great before any administrative attention was being paid to the infective character as it had been after such attention began. It was therefore plain that the ameliorating agencies had been of a general and not of any specific character. Everyday experience showed that there was almost no disease so amenable as tuberculosis to general hygienic conditions. He was aware that at least one eminent medical authority attributed the fall almost entirely to the increasing segregation of consumptive cases in poorhouses, asylums, and infirmaries. The figures for Aberdeen, so far as obtainable, did not support this view in regard, at least, to the remarkable declension in the first half of the last fifty years, and it was only reasonable to infer that the agencies at work in the earlier period had not ceased to be operative in the later period. It would, however, scarcely be possible to deny that in more recent years such segregation, although still very limited relatively to the number of tuberculous cases and the long duration of the illness, must have been exercising a beneficial influence.

Royal Edinburgh Asylum for the Insane.

The annual meeting of the Court of the Royal Edinburgh Asylum for the Insane was held on February 27th, the Right Hon. Lord Provost Brown in the chair. The report of the ordinary managers for the year ending December 31st, 1910, showed a year of prosperous work. The Physician-Superintendent, Dr. George M. Robertson, then read his annual report for the year 1910. On January 1st there were 752 patients on the register, of whom 14 were absent on probation. On December 31st the number was 758, of whom 12 were absent on probation, an increase of 6 for the year. There were 195 admissions (79 men and 116 women), 129 discharges (46 men and 83 women), and 60 deaths (28 men and 32 women). Of the 129 discharged, 70 were recovered and 59 unrecovered. The average number resident during the year was 752. The average population of the asylum has risen steadily from 732 in 1907 to 752 in 1910. Thus the sudden removal of so many patients to Bangour Village Asylum, and of the loss of so many of the admissions belonging to the parish of Edinburgh, has not disturbed the stability of the institution. The prosperity of the Craig House, as indicated by the number of patients and by its revenue, has never been exceeded at any previous time.

The members admitted to Craig House maintained the average of the last six years, but there were fewer private patients at the £45 and lowest rate admitted to the West House. The number of patients cared for in the intermediate (£45) department has, however, not diminished, as patients have been transferred to it from Craig House or from the lowest rate, and these are not included among the new "admissions" in the statistics. There is a practice of a highly commendable nature, which tends to increase the direct admissions to Craig House, and subsequently the indirect admissions to the intermediate (£45) department at the West House. The friends of patients are prepared to maintain them at the higher rates of Craig House, so long as there is a prospect of their recovery, even though this involves a strain on their resources. They feel that the excellent homelike accommodation provided there softens the initial hardship entailed by the loss of liberty, and also gives the patient the best chance of recovery. When all hope of this has fled and the patient is likely to become a lifelong burden on their finances, then the expenditure upon his care is naturally reduced to accord with their means, and he may then be transferred to the comfortable but less expensive department at the West House.

Causes of Insanity.

1. *Alcohol.*—Among the definite causes of insanity the premier place continues to be occupied by alcoholic excess, and it existed as a factor, probably the most important but not the sole agent, in 12.3 per cent. of the admissions. This is a much smaller percentage than in the past, and it is accounted for in two ways. The Edinburgh parish now sends its patients to Bangour (they are chiefly drawn from the working class), so that the admissions to the asylum have altered in social character, and the professional and the leisured classes are in much larger proportion than formerly. It is an undoubted sociological fact that temperance is practised by these to a greater extent than by their poorer brethren. Then it is universally recognized that hard times and the increased duty have diminished the expenditure on alcohol. The percentage of so-called alcoholic insanity amongst men is only 13.9 of the male admissions, less than ever before, but among women it has risen steadily during the last three years from 7.5 to 9.8, and last year it was 11.2 of the total admissions of women. The working man is probably spending more on amusements and entertainments of various kinds, and undoubtedly these conduce to sobriety. The working woman, on the other hand, in many instances is spending more on alcohol, and how to deal with this tendency is a problem for the social worker.

2. *Influenza.*—Among the definite causes the next place in importance is assigned to influenza; in as many as 7 per cent. the mental breakdown was attributed to this disease.

Discharges.

The recovery-rate during 1910 was 36 per cent. of the total number of admissions, a more satisfactory result than for ten previous years.

The Thyroid and Insanity.

Among the recoveries, three are referred to as showing the progress science is slowly but surely making:

1. *The Insanity of Myxoedema.*—Under thyroid treatment the patient was "in a week transformed from a misshapen stupid object into a bright and pleasant-featured woman—her natural self—and quite unrecognizable as the creature of a week before.

2. *The Insanity of Exophthalmic Goitre.*—Serum from a goat whose thyroid gland had been removed was exhibited. Apparently as the result of this treatment the patient recovered.

3. A patient, deranged and impulsive for about a year, was treated with large doses of thyroid under careful supervision. In a fortnight the patient completely recovered. Fifteen years previously the same experiment had been tried upon her during an attack, with the same result.

Divorce and Insanity.

In view of the public attention that has been given to incurable insanity as a possible cause for divorce, the length of residence of some of those who recovered is an interesting feature. Three patients recovered who had been respectively six, seven, and fifteen years in the asylum, and there was a fourth whose insanity had existed for over five years. They were all cases of melancholia, and apparently in all the nutrition of the brain was not being seriously disturbed. There was therefore no tendency to the production of dementia or permanent enfeeblement of the mind. It is safe to infer that if ever incurable insanity of five years' duration be legalized as a cause of divorce, no patient diagnosed to be suffering from true melancholia need have any fear. If divorce is to follow insanity, such a measure will certainly cause unhappiness to many patients and retard their recovery, but it may nevertheless be desirable in the public interests.

Deaths.

These were in the proportion of 8 per cent. of the average number resident, the lowest rate for over twenty years. There were only 5 deaths due to consumption, of which 4 were admitted with that disease. There were 15 deaths from general paralysis of the insane, as in the previous year, and of these 11 were men and 4 women. The general health of the institution had been most satisfactory.

The Royal Asylum Laboratory.

The managers, apart from the initial cost of equipment, are spending at least £600 a year in salaries and working expenses on this modern necessity for an asylum. A feature of the research work recently done in the laboratories is the wave of optimism it has produced. Asylum physicians are now animated by most hopeful views of future possibilities, and this has been a very useful stimulus to them in their work. Even with regard to diseases labelled incurable in our textbooks, no man will now deny that the day seems dawning which will see them treated with success. "I can assure any one who has the means," said Dr. Robertson, "and who is interested in the cause of insanity, that the gift of a sum of £100 or £150 towards the support of a research scholar would be money well expended at the present time, the laboratory providing the material and the apparatus required." The public has always taken a gloomy and pessimistic view of the prospects of recovery from insanity, although it appears from the statistics last year that 36 per cent. of the admissions were discharged recovered, and among the admissions were a large proportion of obviously hopeless cases.

Treatment by Injection of Salvarsan and Human Serum.

The treatment of general paralysis of the insane by salvarsan has been tried in the asylums, and we are indebted to Dr. Robertson for the following note on the *rationale* of the combined salvarsan and human serum treatment:

"It has been known for some time that the milk of a syphilitic mother under treatment by salvarsan cures the symptoms of syphilis in her infant. It has been concluded from this that the cure has been effected by antibodies and not the drug, because, if injected intravenously, the latter is all excreted in about four days. With regard to the production of this antibody, Ehrlich has stated that salvarsan kills the spirochaetes, and that the dead spirochaetes liberate a protein which stimulates the production of a syphilitic antibody, and that on the extent on which this is done the cure of the syphilis depends. Now the results of the use of salvarsan in general paralysis (parasyphilis) have not been so successful as in most syphilitic conditions, and this is possibly due to a deficiency of antibody. This is a reasonable hypothesis, because the number of spirochaetes (whose death would liberate the necessary protein) is probably few, seeing that none have ever yet been found. It is also possible that they have retreated into the cerebro-spinal fluid, where the salvarsan cannot come into a very efficient contact with them. Both these conditions would result in a deficiency of antibody. The serum taken from a patient who has been intravenously injected with salvarsan for secondary or tertiary syphilis from three to fourteen days before is full of antibody, and if in its turn it be injected into a case of general paralysis which has already been treated with salvarsan, and the injection be occasionally repeated, it may supply the curative agent which is wanting. If acute symptoms be absent, the most that successful treatment can do is to stop the progress of the disease, for the damage that has been already done by the destruction of nerve cell and nerve fibre is of course irreparable. Proof that the course of the disease is checked must be a question of time. If, however, this proof be obtained, then treatment could be applied to cases in the earliest stages before any serious damage has resulted. Thanks to the Ross-Jones test for proteids in the cerebro-spinal fluid, lymphocytosis and the Wassermann reaction (all of which should be applied to persons with nervous and mental phenomena who have had syphilis), it is possible now to diagnose the disease at a very early stage with great accuracy and to exclude it with certainty.

"The serum is obtained by drawing off blood with scrupulous antiseptic precautions from any prominent vein at the elbow. If about 30 c.cm. be drawn off about 15 c.cm. of serum is obtained. The tubes with the blood are kept on ice for twenty-four hours. The serum is then drawn off and centrifuged in sterilized tubes to remove red blood corpuscles. It is then kept on ice till required. A broth culture is made from it to test its sterility. Ten c.cm. of this serum is subcutaneously injected into the abdominal wall, and another dose of 20 c.cm. given within a fortnight. There have been no toxic serum results either after the first or the second dose, and the reaction has been scarcely noticeable.

"We have had one case of general paralysis with acute symptoms which has improved in a most striking manner after salvarsan treatment, but in the other cases, without acute symptoms, there has been little or no change in the dementia and physical phenomena. Whether the progressive course of the disease has been checked it is yet impossible to say. It will be interesting to note whether the addition of human serum containing antibody confers increased power to the salvarsan treatment of parasyphilis or not. The results in yaws obtained by Dr. Henry Alston of Trinidad by the use of serum from a blister from a person who had himself been treated by serum only has demonstrated the value of the antibody in treatment, and has encouraged me to hope that if the toxaemia of general paralysis be primarily derived from the *Treponema pallidum*, benefit will be obtained."

Care and Nursing of the Insane.

The general care of the patients was continued on the lines fully explained in last year's report. Endeavour was made to remove all features peculiar to asylums, and to convert the institution into a true hospital for the treatment of a special disease, by organizing it on the lines of a general hospital, and by administering it through female officials, who, in addition to experience in the care of the insane, had been fully trained in hospital nursing. The administration of a mental hospital could be conducted on lines very closely resembling those of a consumption sanatorium. Manacles, the strait-jacket, the padded room, seclusion, have become anachronisms under the hospital system. This had become possible by the number, skill, intelligence, and devotion to duty of nurses and attendants, and in their discipline and supervision. At the Stirling District Asylum, with an average population of over 700, Dr. Campbell reports that 2,200 patients have been admitted during

the last nine years, and neither mechanical restraint, "seclusion," nor the padded room have been made use of, and no patient has been locked up in a single room, night nor day, during all that time.

Structural Additions and Improvements.

The managers have spent about £3,000 on the fabric and furnishings of Craig House, and about £5,000 to bring them fully into line with the most modern institutions.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.

THE report presented at the annual meeting of the Royal National Hospital for Consumption stated that by far the largest number of patients admitted were between the ages of 21 and 25, the next largest number between 26 and 30, and the next between 16 and 20. In 52 per cent. of admissions no family history of tuberculosis could be traced. The deaths numbered 10 out of a total number of 440 patients; while 25 per cent. of those admitted were classified as "very much improved," and a further 26 per cent. as "much improved." Arrangements have lately been made whereby patients returning from the hospital to the country are put into communication with a local branch of the Women's National Health Association, and are thus assisted in carrying on their treatment at home. It is widely felt that one of the most important functions of the hospital is to act as an educative force. Every patient who has been an inmate of the hospital learns practically the rules of hygienic living and the best methods of combating consumption, and on his return home is enabled both by precept and by example to educate his neighbours.

DUBLIN UNIVERSITY BIOLOGICAL ASSOCIATION.

The annual dinner of the association was held on March 4th at the Gresham Hotel, Dublin. The President, Dr. Wheeler, occupied the chair, and there was a very large attendance of students and medical men. The speakers included the President, who proposed the health of the guests in a witty and entertaining speech; Sir Thomas Myles, Professor Kennedy, Mr. E. H. Alton, and Professor W. H. Thompson. An excellent programme of music was provided by members of the Trinity College Medical School.

PRESENTATION TO SIR CHARLES CAMERON.

On March 4th Sir Charles Cameron was made the recipient of an interesting presentation by the chief officers and staff of the Public Health Department of the Dublin Corporation. The presentation consisted of a replica in Irish walnut of the Speaker's chair in the last Parliament in Ireland. The original has for long been in the possession of the Massereene family in co. Antrim, but lately has been exhibited in the Science and Art Museum of Dublin. The replica given to Sir Charles Cameron bore the following inscription:

> Replica of Speaker's Chair of Irish House of Commons. Presented to Sir Charles Cameron, C.B., M.D., Medical Superintendent Officer of Health of the City of Dublin, in his jubilee year in the service of the citizens, by some members of the staff of the Public Health Committee.

CARLOW UNION.

A report of the master of the Carlow Union to his board of guardians concerning the recent admission of a patient to the union infirmary gave rise to some interesting remarks on the part of the attendants at the board meeting. From the account before us, it is impossible to state what the patient was suffering from, but it appears that his removal from his home to the workhouse during the night gave rise to much offence, presumably owing to the fact that it entailed some trouble on the part of the officials concerned. One of those present desired to make a regulation to the effect that patients should not in future be removed at the dead of night, but this was not carried. In the course of the discussion it was stated, without contradiction, that when a patient had to be removed the medical officer has no authority to specify the hospital to which a patient should be conveyed; that duty is performed by the relieving officer. If this be true, it points to the existence of an absurd and anomalous regulation, which should be altered.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

MANCHESTER AND DISTRICT.

"AN UNHOLY TRAFFIC."

THE outstanding feature of the recent Manchester Assizes was the unusually large number of cases in which the charge was that of illegally procuring abortion. In some of the cases the charge of murder or manslaughter was not substantiated and two persons were discharged, one of them after only a short consideration by the grand jury, though the coroner's jury had returned a verdict of murder. In another case the charge of murder was reduced to that of illegally using a certain instrument with the intent of procuring a misbap, and Mr. Justice Grantham, in passing sentence of eighteen months' imprisonment, said that it was clear from her own evidence that the prisoner, a married woman of Longsight, had committed the offence to which she had pleaded guilty. He said:

> This crime is terribly rife in this district, the North of England, Yorkshire and Lancashire, among those towns where there are a large number of operatives who are doing well as far as most of them are concerned, though I dare say there is a good deal of poverty, particularly when they are not on full time. People ought to maintain the families which God has given them, and if it were not for women like you, and other horrible creatures, men and women, who get large incomes by this trade, this would not be done. Whatever your intentions, you must have known from your experience in these cases the risks run and the number of lives that are lost every year by people going through these operations desirous of saving these people from the inconvenience of having children. I hope it will be a warning to other women and men who engage in this unholy traffic.

There can be no doubt that the remarks of the judge as to the frequency of the crime in Lancashire are not in the least too strong. It may be, of course, that a greater proportion of actual cases are detected in Lancashire than in other places through the greater activity of the police, but the fact is beyond doubt that the "unholy traffic" is terribly rife. It is stated that there are actually places, so called nursing homes, where women may be instructed how to pass an instrument into the womb themselves, and it is by no means rare for medical practitioners to be called to cases of illness of pregnant women, and to find that they are suffering from lead poisoning. In one such case a practitioner elicited that the patient had spent over £4 in lead pills, which she had obtained from an old nurse at a guinea a box. It was impossible to obtain the name of the nurse, but the pills were simply small pieces of common emplastrum plumbi roughly rolled up between the fingers into pill form.

The position of medical men in these cases is extremely difficult even when no miscarriage occurs and the patient recovers, and unfortunately it cannot be said that the police, or even some of the coroners, sufficiently realize the difficulties, nor have they shown the consideration for the profession which it can rightly claim. It would even seem that in a case of miscarriage from natural causes, where curetting has had to be done to save a patient's life, a medical man may afterwards be charged with doing an illegal operation, and even though a second practitioner be called into consultation, both of them are liable to be arrested on the charge, and a subsequent acquittal would by no means recompense them for the trouble, annoyance, and damage to their practice which would be certain to follow. So great has the danger been felt to be recently that unless more consideration is

shown to the profession, many practitioners will simply refuse to attend cases of abortion or miscarriage, as the opportunities for false charges are so great, and appear to be so readily listened to by the police, even when practitioners of unblemished reputation are concerned. The medical profession in Lancashire is doing its best to lessen the horrible practice of procuring abortion, but it has a right to demand sympathy, and not suspicion, from both coroners and the police.

THE MANCHESTER MEDICO-ETHICAL ASSOCIATION.

The sixty-third annual report of the Manchester Medico-Ethical Association shows a membership of 90 at the end of the year 1910. The committee expresses its sense of the great loss to the association caused by the deaths of Dr. Samuel Buckley and Dr. Bagley, both of whom were active workers for the association. In addition to the annual meeting, three ordinary meetings and a smoking concert were held during the year, the average attendance being 29. The papers communicated maintained the high standard of former years. On April 12th Dr. Margaret M. Smith opened a discussion on the admission of women to the resident staffs of general hospitals, and on this occasion the members of the Manchester Branch of the Northern Association of Medical Women were the official guests of the Association. On October 11th Dr. Savatard, the Honorary Secretary, opened a discussion on King Edward's Memorial from a medical point of view, and he moved a resolution, which was lost, in favour of the establishment of a local King Edward's Hospital Fund. On November 22nd, Dr. J. H. Taylor read a paper on medical attendance under State sickness insurance. The Treasurer's statement of account shows a balance in hand of about £126. The President for the year, Sir William Sinclair, gave an address on February 28th on physical and mental degeneracy in modern England: its causes and prevention.

LEEDS.

THE GENERAL INFIRMARY.

THE King Edward memorial fund in connexion with the infirmary now amounts to £86,300, and it is hoped that the sum of £100,000 may soon be announced, though every one is aware that the later thousands are more difficult to secure than the earlier. Meanwhile the work of clearing away the glass and iron covering of the central hall is progressing. This was put up as a temporary structure in connexion with the holding of an exhibition in the year 1868, when the infirmary was opened. When the exhibition was over it was thought that the central hall should be left with its covering and used as a winter garden or airing place for the patients. It has, indeed, not been used much for this purpose, though the covering has remained and has been from time to time repaired. Visitors, and especially those visitors who may be described as experts, have severely criticized the retention of the glass roof, as being at variance with the original intention and wise design of preserving an open space in the centre of the building. No doubt the more fresh air there is about any building the better, but all the wards in Leeds are provided with windows on both sides, and are independent of any ventilation from the central hall. It has also been held that the presence of a covered central hall is tantamount to throwing the wards into mutual communication. It is not felt, however, that there is really any ground for criticism on this score, and it is the opinion of the board and of their expert advisers that the ventilation of the wards and of the building generally is fully provided for, and will not be interfered with when the structural alterations, for which the removal of the glass and iron covering are paving the way, are completed. The intention is that the space left should be in part occupied by the new suite of operating theatres. These will be most conveniently situated, being readily accessible from the wards, well lighted both from the roof and the side, and will be compatible with the existence of a space of some width between them and the surrounding corridor, by which light will reach the latter. Active consideration is being given to the plans of the new theatres, but there are many points of detail to be decided upon before specifications are obtained. The provision of new theatres is, of course, only one of the many tasks which the board have in hand, among which may be mentioned the rearrangement of the out-patient department, the extension of the pathological rooms, and other equally pressing necessities.

Statistics of the General Infirmary.

The statistical tables in connexion with the infirmary, which will form a part of the annual report, have for some time been in the hands of the members of the Board of Management, and are of considerable interest. The total number of patients admitted into the wards during the year 1910 was 7,494, an increase of 451 over the year 1909. On January 1st, 1910, there remained in the wards of the infirmary 355 patients. The increase in admissions affected all the departments, the increase in medical patients being 129, in surgical patients 119, in accident cases 8, in eye and ear cases 173, and in gynaecological cases 31. The daily average number of patients in the wards was 377, as contrasted with 375 for the previous year, the average number of days each patient was resident in the infirmary was 17.5, as against 18.6, and the average number of patients to each occupied bed was 20.8, as against 19.6. The deaths amounted to 506, 1 more than in 1909. This gives a percentage of 6.4, but if the number of deaths occurring during the first forty-eight hours after admission be deducted, the percentage works out at 4.7. From the infirmary patients are drafted to the two semi-convalescent hospitals at Cookridge, 1,231 being so dealt with, as compared with 1,038 for 1909. At these two semi-convalescent hospitals there were at the beginning of the year 86 patients, so that the number of patients—none of whom were ready to go home or to ordinary convalescent homes—treated at these hospitals amounted to 1,317. As has been pointed out before, this arrangement, which has developed in Leeds for a good many years, is attended with a considerable amount of economy, for the cost per patient is less at these hospitals than at the parent hospital. The number of new out-patients shows a decrease of 3,658, and stands at 28,681. In view of the fact that it is held by many that a considerable number of people go to the infirmary who could well afford to pay, or who are suffering from very trivial affections, this diminution may be looked upon as satisfactory, and it is hoped it may continue. The casualties have increased by 3,029 and amounted to 19,141, and these figures may probably be associated with the happy lack of unemployment which has characterized 1910. The extern Maternity Department shows a total of 509 confinements. Here, it may be mentioned, that some pressure has been brought on the authorities to extend the area within which cases of labour are attended from the infirmary, but as yet it has not been found possible to fall in with the wishes of those from whom the request has come. The figures which have been given above show that the infirmary is being run at high pressure; additional accommodation is required, and though this will in a small measure be provided by the contemplated alterations in the hospital, it is clear that in the not far distant future Leeds will be called upon to provide additional accommodation for in-patients. The cost per bed at the infirmary main building was £76 5s. 8¼d., calculated on the ordinary expenditure, and £85 4s. 4d. when the calculation was made so as to include the extraordinary expenditure.

WORKPEOPLE'S HOSPITAL FUND.

The twenty-fourth annual meeting of this fund was held in the Civil Court at the Town Hall, Leeds, on February 22nd. The objects and management of this organization have been described on several previous occasions, and the report deals with another successful year's work. As was very truly said at the

meeting the amounts of the various workshop collections always act as some kind of index of the condition of the trade of the city, and the increase in these amounts this year is in harmony with the no less satisfactory diminution in the amount of unemployment which is reported from other sources. For the first time in the history of the movement the collections from the large and small workplaces of the city amount to more than £10,000, being in fact £10,738, which is an increase of £856 as compared with the year 1909. This sum, along with that obtained from other sources, such as public-house collections, various kinds of entertainments, carnivals and concerts, together with the balance left over from last year, amounts in all to £13,628. The expenditure on the two convalescent homes at Ilkley and Horsforth for the year 1910 was £3,905, and the other expenses, including the purchase of recommendations for subscribers to the fund going to other convalescent homes, amounted to £933. This left a balance of £8,789, which it was determined to distribute as follows:

General Infirmary	£5,250
Leeds Public Dispensary	800
Hospital for Women and Children ...	800
Tuberculosis Association	315
District Nursing Association	250
Maternity Hospital	150
Bramley District Nursing Association ...	50
Stanningley District Nursing Association	50
Leeds Homœopathic Dispensary ...	15

The sum of £1,134 was carried forward to next year.

WEST YORKSHIRE.

Death from Wind Storm in Bradford.

An extraordinary accident which has aroused great interest, not only locally but all over the country, occurred in Bradford on February 23rd. A girl 16 years of age, attending the Hanson secondary school, had occasion to go into the playground, and shortly afterwards was caught by a veritable tornado of wind, which carried her bodily into the air; she fell to the ground and sustained injuries so severe that she quickly succumbed. The case appeared so extraordinary and of such importance from a medico-legal point of view that it seemed desirable to make careful inquiries, and to ask for the views of Mr. Hutchinson, the Bradford coroner, in regard to it. The school playground is in a very elevated position, and the assistant caretaker, in his evidence, stated that he had on several occasions seen girls blown off their feet, but never actually into the air. He saw this girl go out into the playground, and within three minutes she was carried into the teacher's room fatally injured. He had never in thirteen years' experience at the school seen the wind so violent as on the morning of the accident.

Mr. F. A. Parsons, a commercial traveller, who was waiting for a tramcar in front of the school, said he saw the girl in the air, her skirts blown out like a balloon and her arms extended. She was 25 to 30 ft. in the air, just above the school balcony. (The latter, the coroner remarked, was 20 ft. high.) If she had fallen from a window he would have seen her.

The caretaker at the school, in his evidence, stated that he had many times seen girls blown down in the school-yard and pinned against the wall, and frequently he had had to assist them into the school. Dr. McEwan, who was called, said he found the girl unconscious and pulseless, suffering from severe concussion of the brain and compound fractures of the lower jaw, the right arm, wrist, and thigh. It appeared that the girl was wearing a pair of bloomers with an ordinary skirt, but without petticoats. The evidence was against the possibility of the girl having thrown herself out of a window. She was in good spirits, and it would not have been feasible for her to get to the window above the balcony, which was in the boys' school. The jury returned a verdict of "Died as the result of a fall caused by a sudden gust of wind."

It is said that, although wind in a gale, according to the anemometer, may only be travelling some fifty to seventy miles an hour, there are paths and points in which it may be enormously more rapid. Under these conditions any object caught in the particular path and affording sufficient purchase may be raised bodily from the ground. It appears that this must have happened here. Happily such accidents are very rare in this country.

LIVERPOOL.

Royal Country Hospital for Children.

The net proceeds of the subscriptions at the dinner in aid of this hospital, over which Lord Derby presided on February 23rd, were £1,068, exclusive of the cots given by Mr. Hutchinson and Mr. Cain. On the previous evening the children of the Park Street Council School had given an entertainment in aid of the hospital, and the sum thus collected was £35, the amount necessary to keep a cot for twelve months. It appears that two or three children from the school have been treated at the hospital, and the suggestion to give an entertainment arose in consequence. The cot has been named the Emily Booth cot, in memory of a lady who took much interest in the children of Liverpool. At the entertainment Dr. C. J. Macalister gave a short address describing the objects of the institution and the services it renders to children.

LONDON.

Proposed Reorganization of School Medical Inspection.

A long debate arose at the meeting of the Education Committee of the London County Council on March 1st with regard to the proposal of the Children's Care Subcommittee to place the organization and administration of school medical inspection and treatment under the control of the Education officer, Mr. Blair. An amendment to make Dr. Kerr responsible to Sir Shirley Murphy, the Council's general medical officer, was placed before the committee immediately, but members appeared to be dubious as to the wisdom of either course. The disadvantages of placing a layman at the head of a medical department were keenly appreciated, but, on the other hand, ardent educationists feared that the Public Health Department was not sufficiently in touch with the special requirements of school medical work to exercise effective supervision or secure close co-operation with school managers, teachers, and local care committees. Mr. Gray, the Chairman of the General Purposes Committee of the Council, which has to revise all proposals by other committees to make administrative changes, moved the following amendment:

> That the medical inspection and treatment of school children be placed under the control of the medical officer for Education purposes, and that he be directly responsible to the Education Committee and be a chief officer of the Council.

A vote was taken, and there voted; For the amendment, 14; against, 14. The Chairman declined to exercise his casting vote, and the amendment fell to the ground.

The reference back of the report was mooted, but the chairmen of the committee and subcommittee and several members urged that the matter was one of extreme urgency, as, pending the settlement of the question of responsibility, the consideration of methods of supplying the deficiencies in the medical treatment scheme complained of by the Board of Education must be suspended.

Mr. Ernest Gray said every one was struggling with an illogical position. Medical treatment would be overshadowed by ordinary public health work if one scheme were carried, or a layman would be placed in charge of medical work if the other scheme were adopted. The committee might overcome the difficulty by taking a step which he believed it would be

driven to take eventually if it did not take it now. School medical work would grow, and it would demand the services of a chief officer of the Council. In his opinion it could and should be dissociated from ordinary public health work. That was why he moved his amendment, to test the feeling of the committee. It received more support than he thought possible, and that method of dealing with the difficulty should have further consideration in subcommittee.

Only seven members voted for the reference back, and the subcommittee's recommendation to place the medical officer (Education) under the control of the Education officer was accepted by 19 votes to 11. The matter next comes before the General Purposes Committee and then the Council.

FURTHER PROVISION FOR DENTAL TREATMENT.

The London County Council on March 7th decided, as a further step in the direction of providing dental treatment, to contribute £400 to assist the authorities of the St. George's Dispensary, Surrey Row, Blackfriars, to resume the dental treatment dispensary, discontinued recently owing to lack of funds. Having regard to the statement of the medical officer to the Board of Education that the critical time of attack on the teeth was the six year molar period, from 6 to 8 years of age, the Education Committee advised that experience should be obtained at the dispensary of dealing with children of these as well as other ages. In the experiments at Poplar and Deptford the age-group (8 to 9) was selected because it was covered by the ordinary medical inspection. The selection of another age-period would necessitate the employment of an inspecting dentist on one half day a week. From May 1st to December 31st next it is proposed to treat 1,300 cases under this scheme.

THE NEW KING'S COLLEGE HOSPITAL.

It is anticipated that the new buildings for King's College Hospital will be ready for occupation in about eighteen months, or, in other words, within about four years from the date of the laying of the foundation stone by His late Majesty King Edward VII. The portion of the hospital so far practically completed—namely, the out-patient and casualty departments and the administrative block—made an excellent impression when thrown open for public inspection on February 25th. The ward blocks, operation theatres, special departments, and chapel are now being taken in hand. When the decision to remove the hospital from Lincoln's Inn Fields to Denmark Hill in South London was reached the total expenditure, excluding the site—a gift from the Hon. W. F. H. Smith—was estimated at £300,000. Of this sum, £190,000 has been collected, and an appeal for a further £150,000 is now being made. A dinner in support of the appeal will be held at the Connaught Rooms on May 4th.

SMALL POX.

The Public Health Committee reported to the London County Council on March 7th the steps that had been taken to deal with the outbreak of small-pox in the East End of London (as related by the Chairman last week and reported in the BRITISH MEDICAL JOURNAL, March 4th, p. 522) and added that it was impossible to state with any certainty whether those measures would suffice to bring the epidemic to an end. Further extension might occur especially as in several cases the source of infection had not been discovered, and the time of year was not unfavourable to an extension. On that day 40 cases of small-pox remained under treatment at the Joyce Green Hospital; the total number of deaths so far is eight.

BIRMINGHAM.

EPIDEMIC OF MEASLES.

AFTER an immunity for two years measles is again epidemic in Birmingham. During the past three weeks nearly 1,400 cases have been reported from the elementary schools alone. For the week ending January 28th, 142 cases were reported to the City Health Department from the schools. Thenceforward the disease became rapidly progressive. In the following week the number of cases jumped up to 378. The next week 431 new cases were reported, and for the week ending February 18th the fresh cases totalled 570. The deaths from measles during this week numbered 26.

DENTAL CLINIC FOR KING'S NORTON.

The Education Committee of the King's Norton and Northfield Urban Council has decided, upon the recommendation of the School Hygiene Subcommittee to establish a dental clinic for the treatment of the defective teeth of the school children. It is proposed to advertise for a dentist at a salary from £300 to £350 per annum. It is estimated that the full cost of the dental clinic will be £600 for the first year and about £500 a year afterwards, as some of the expenses of the first year would not recur. A skilled nurse would be required to keep registers and assist in numerous minor respects.

REBUILDING OF THE CHILDREN'S HOSPITAL.

It is hoped that the rebuilding of the Children's Hospital will commence in the spring of next year on the Ladywood site. The rebuilding has been made possible by the proprietors of the *Birmingham Daily Mail*, who opened a King Edward VII Memorial Fund. It was decided to devote the proceeds to the erection of a statue in memory of the late King and to place the balance at the disposal of the Committee of Management of the Children's Hospital. The building when completed will be called the King Edward VII Memorial Hospital. It is hoped that the amount eventually received through the instrumentality of the *Birmingham Daily Mail* may reach £30,000. Had it not been for the cordial response of the public to this appeal, the future of the Children's Hospital would have been uncertain inasmuch as the Broad Street lease is expiring, and there was very little prospect of sufficient funds being raised in time to erect new buildings elsewhere. The plans for the new buildings are not yet finally settled. The open-air treatment which it is hoped to make a special feature of the new hospital, involves the planning of buildings on somewhat novel lines, and consequently, improvements in design and arrangement continually suggest themselves. The plans also have to be framed to allow of the approximate cost of the building not being in excess of the funds in hand, and it has been found most difficult to design a building within these means which will meet present requirements and, at the same time, allow of economical additions when circumstances allow.

PORTSMOUTH.

THE ROYAL PORTSMOUTH HOSPITAL.

AT the annual meeting of the Royal Portsmouth Hospital, on February 28th, when Sir George E. Couzens was in the chair, it was reported that the number of patients treated in 1910 was: In-patients, 1,936; out-patients and casualties, 15,379; a total of 17,315; and that the excess of expenditure over the income during the year was £2,016. To relieve this financial embarrassment two remedies had been suggested—namely, municipalization, and the opening of wards for paying patients, a course which had been strongly urged in the local press. In reply to these proposals it was stated that the trustees held the institution for charitable purposes, and that they had no authority to hand over the possessions of the subscribers to the municipality so long as it was possible to maintain the hospital for charitable purposes. The system of paying wards had been adopted for some time; in fact, the report showed that £337 had been received from such patients during the past year, but its development was a practical impossibility owing to want of accommodation. The first duty of the committee was to provide for the sick poor of Portsmouth, and to ask the subscribers to do anything which would take away beds from the poor was to ask for that which was impossible. The hospital had sustained a severe loss

in the death of Admiral the Hon. Sir Assheton Curzon-Howe, G.C.V.O., K.C.B., C.M.G. During the time he had held the position of Commander-in-Chief at Portsmouth he had taken a very warm interest in the hospital, and his memory will be held in grateful remembrance for his many services to the institution. The promise of a gift of £1,000 has been received from Inspector-General Henry Hadlow, R.N. (retired), for the endowment of a bed in memory of his daughter.

Natal.

[*FROM OUR SPECIAL CORRESPONDENT.*]

THE PUBLIC HEALTH DEPARTMENT.

IN the eighth annual report of the Public Health Department of the colony of Natal the medical officer reports that the year 1909 was notable for low death and morbidity-rates.

Vital Statistics.

The estimated European population (including mixed races) as at June 30th, 1908, was 99,745; at June 30th, 1909, it was 98,934. The native population was estimated at 996,445.

The present laws regulating the registration of births, deaths, and marriages are defective in many points which are essential for the provision of adequate information from which proper vital statistics can be compiled. They bear throughout the impress of being directed solely to provide safeguards in respect of succession to property, and not to secure accuracy in the record of the facts which are needed as a basis for ascertaining the condition of the people and deducing the nature of the measures necessary to ameliorate evil conditions which are remediable. Thirty days' grace are allowed for the registration of births even in towns, and this period, unnecessarily long, debars the medical officers of health from opportunities of lightening the mortality of infants. The law also allows thirty days for the registration of a death, and provides that, if a body be buried without an order from the registrar, notice shall be given to him of such burial within two months. No medical certificate of cause of death is demanded. On account of this laxness persons dying from poison or any other cause can be buried without any inquiry.

The birth-rate among Europeans, 27.23 per 1,000 living, is low, and is diminishing. Amongst the Indian immigrants the birth-rate is high, being 35.20 per 1,000 living.

All deaths of persons not domiciled at Natal have been eliminated, but no information has been received of the death in any other part of South Africa or elsewhere, of any person belonging to Natal. The death-rate among Europeans was only 8.14 per 1,000 living, among Indian immigrants 16.09 per 1,000 living. The principal causes of death during 1909 were diarrhœa, dysentery, enteritis, tuberculosis of lungs, and other lung affections. Infantile mortality, although high, showed a marked decrease on the rate of previous years, in 1909 it was among Europeans 56.79 per 1,000 births as against 76.64 in 1908. Indian immigrants showed a death-rate of 117.82 per 1,000 births in 1909; nearly 7 per cent. of Europeans, and over 12 per cent. of Indian immigrants die in the first year of life.

Vaccination.

The "conscientious objector" exists among the European parents in Durban; no less than 32 per cent. sent in depositions signifying conscientious objection. On account of the large number of these objectors, especially in Durban, the opinion is expressed that some amendment should be made in the Act.

Accompanying the report, which is drawn up by Dr. Ernest Hill, medical officer of health for the colony, who is to be congratulated on his lucid treatment of the vital statistics, are reports by the port health officer, Durban, and of the district health officers.

Correspondence.

PLAGUE IN HARBIN.

SIR,—In the midst of the fight it is almost too soon to attempt the elucidation of all the facts of this pneumonic plague in North China, and as the International Conference invited by the Chinese Government meets in Mukden in April, the results of the personal investigations of members, together with the reports of the various chiefs of work, will accomplish this end more thoroughly. As, however, four British graduates have figured largely in this Harbin epidemic, perhaps a few items may be of interest.

The plague spread to Harbin from surrounding districts in the beginning of December. I think the conference will be able to show that its origin is unquestionably the Mongolian marmot. The Russians dealt with the epidemic very effectively whilst in their zone of influence, but the Chinese city of Fu-Chia-tien, separated from Russian Harbin only by a railway crossing, was for the first six weeks left entirely in the hands of the local Chinese officials and quacks. It was not until the deaths numbered nearly 100 a day that political pressure caused the Central Chinese Government to move.

Dr. Wu, M.A., M.D.Cantab., of the Tientsin Imperial Army Medical College, and Dr. Gibb, M.D., F.R.C.S., of Union Medical College, Peking, were appointed by the Foreign Office to take control and organize the Antiplague Administration; they were joined shortly after by Dr. Stenhouse, B.A., M.B.Cantab., and myself. We were assisted by fifteen other Chinese doctors, who had all received Western medical training, either in China or Japan, and thirty students of the senior years from our medical schools.

It would hardly interest medical readers to read of the state of things as we found them on arrival. A few details will suffice. Here is a Chinese city with a population variously estimated at 25,000 to 40,000 people, the majority composed of the coolie class, from the provinces of Shantung and Chihli, who come here yearly for agricultural pursuits—milling and lumbering—returning home for the Chinese new year. When the Government actually became alarmed at the growth of the plague, it immediately stopped all second and third class passenger traffic on the railway, the main idea being to prevent the plague entering inside the great wall at Shan-hai-Kuan, and so keep it from Tientsin, the big commercial city, and Peking, the imperial city.

It soon became evident that this move was unwise, for the coolies, finding the railway closed, set off to tramp by road, with the result that they left a trail like a red line from Harbin to Shantung, a distance by land of about 1,200 miles. To Kuang-Chieng-tzu, Mukden, Hsin-min-tien, Yung-ping-Fu, Tientsin, Peking, Dalny, Chefoo, all down the new Tientsin-Pukow Railway to Shantung, also from Peking to Pao-ting-fu, the plague spread, with the rapidity of men doing forced marches.

After delay, which seemed inevitable in organizing a work so totally new to the Chinese mind, a little fear gradually gained hold of the usually stolid Chinese, and to a limited extent the people began to assist. Quarantine was effectually established, and the city divided into four main sections, each with its staff of doctors, students, sanitary coolies, stretcher bearers, search parties, dead removers, police, and messengers, numbering between 300 and 400 for each section. Each main section was again subdivided, and under the charge of junior doctors, and all sections linked up to the Administrative Bureau by telephone. Every individual in the streets had to wear a Government badge, the colour of the section in which he lived, and no one was allowed out of his section without permit. A military cordon round the city, which has no wall, prevented ingress and egress. By the time this was all arranged the deaths numbered nearly 200 a day; about half of these deaths only occurred in our already organized plague hospitals; the remainder were collected on the streets by the sanitaires and police. In order to escape quarantine, the dead were thrown into the streets at night, or in hundreds of instances the sick were forced out of doors in a staggering condition, to drop in the street and probably freeze to death before killed by the plague.

With the institution of the military cordon, the police doing cordon duty were liberated for city work, and in a short time bodies ceased to be thrown out; but, worse still, the people were hiding them in cupboards, boxes, roofs, ceilings; this added greatly to the duties of the search parties. The greatest difficulty was the disposal of dead. Graves could not be dug; the thermometer stood constantly in the neighbourhood of 20° F. below zero; so after a long half-mile of bodies and coffins had collected, the Government rose to the occasion and sanctioned what in the Chinese eyes is an unwarranted desecration—namely, burning. In three days over 4,000 bodies were burnt, and since then every few days, as a few hundreds would accumulate, similar burning.

Our quarantine section was composed of 100 railway trucks, each holding about 20 persons, a plague hospital for 30 people, a suspect hospital for 30, and a disinfecting station, together with administration building and kitchens. The advantage of railway trucks for quarantine work could be much enlarged upon.

When the administration got well to work, a few days saw the beginning of a decline in the number of deaths. It hung for a week or more at 170 to 180 a day, then gradually fell to 140, and with a few rises and falls, as I write to-day, after six weeks of Western scientific administration, the deaths number only seventeen. This is the Chinese side. The Russian city work, assisted by special professors of Moscow, and Dr. Paul Haffkine in charge of the plague hospital, will be more ably reported on by the conference. A few medical details in closing.

First, the plague is absolutely pneumonic and septicaemic in type, not a single instance of bubonic.

Secondly, not a single case of undoubted plague has recovered (our deaths in the Chinese city are well over 6,000).

Symptoms are unreliable during the maximum intensity of the plague. In the quarantine daily examinations we picked out on first examination all fast pulses and then took the temperature. If the case was septicaemic, the temperature was mostly subnormal; if pneumonic, there was a slight rise, but positively nothing to indicate the severity of the condition. Patients, laughing, talking, and joking, were in scores of cases dead in a few hours. Finally, in the rush of work, as our suspect hospital converted itself into a plague hospital by the rapidity of death, we simply relied on the only one positive symptom—bloody expectoration: first, expectoration tinged with blood, then the whole expectoration pinkish as anchovy sauce, and, finally, all blood red when death was only distant a couple of hours.

Headache was more or less constant, and during the last few hours staggering gait like a drunken man.

I am sorry to say that most of the scientific facts will have to come from Dr. Paul Haffkine, for, with the rush of organization and the masses to deal with, none of us have had time for laboratory work. I think, judging from our own observations, that:

1. A very large number of cases were primarily septicaemic, showed no pneumonic symptoms, and died very rapidly.

2. That nearly all pneumonic cases became septicaemic if they lived over twenty-four hours after diagnosis.

3 All bodies became a dark purple colour—patches before death and general after.

4. Many without pneumonic symptoms were intensely yellow—conjunctivae yellow—and the Chinese skin converted the yellow into almost an orange bronze, and such cases were not subject to further examination, but diagnosed by appearance.

5. Age incidence confirms the reports of bubonic plague—under 20 and over 50 rare, but in a place like this, made up of coolies, it would not be wise to draw a fast line. Women, very few; but then the place has few women. Children, next to no deaths, although attended and nursed by their mothers until within a few hours of death.

6. I think the conference will reveal, as the result of Dr. Paul Haffkine's work, that there is a negative stage following inoculation with Haffkine's vaccine lasting from five to seven days; and whilst there have been deaths amongst all classes of workers, Chinese and foreign, *not one* is known, amongst those successfully inoculated, who had passed the negative stage before commencing plague work.

7. Some cases, besides being septicaemic, showed an intestinal form with diarrhoea. Dr. Wu has a pure culture of *B. pestis*, which was simply a portion of the motion passed.

8. That the plague reached its maximum about three months from the beginning, and bacillus began to show involution forms at this time.

9. That this great epidemic covering North China will be the birth epoch of Western medicine, for, with all the vaunted powers of the old-time practitioner, here he failed completely, and Western science, in the minds of the officials, has now received an indisputable precedence.

With these few hurried notes,—I am, etc.,

W. H. GRAHAM ASPLAND, M.D., F.R.C.S.Edin.

Antiplague Car, Harbin, Feb. 20th.

TUBERCULIN AND THE PREVENTION OF TUBERCULOSIS.

SIR,—It was with some reluctance that, a fortnight ago, I asked to be allowed to clear up certain points in relation to the prevention of tuberculosis. It appeared very desirable that these points should be made clear, and numerous communications received by me since led me to hope that the purpose of my letter of February 25th had been achieved. Further correspondence in the JOURNAL this week shows that the plain statement in that letter has not been plain enough. Yet I cannot think that the number of persons who misapprehend the issue is a large one.

It was my wish to present the larger view of prevention which prolonged and close study of tuberculosis had forced upon me, and should be taken by every community in the interests of its citizens. It seemed necessary, because of the exaggerated projection of tuberculin across the line of progress, to emphasize that, if I advised a cautious estimate of its significance in prevention, it was not because I underestimated the therapeutic value of tuberculin. Not many physicians can have used tuberculin in hospital, in dispensary, and in private more than I have done, and on that ground I ventured to refer my colleagues to a definite statement of opinion, to which they had ready access in the JOURNAL.

As to the London meeting of the Association, to which reference has again been made, may I direct those who are interested in the question to the report of the discussion regarding a paper read by Dr. Wilkinson in the Section of Medicine, which will be found on pages 1055–57 of the JOURNAL of October 8th, 1910? In that paper an attempt was made to place treatment by tuberculin in opposition to sanatorium treatment. It was stated by Dr. Wilkinson that sanatorium treatment had failed in the majority of cases, and that tuberculin treatment could achieve far better results at far less cost, and that he knew of only one contraindication to tuberculin, and that was despair. Throughout the paper sanatorium treatment was deliberately and, as it seemed, wrongly put in opposition to treatment by tuberculin. On that account, in summing up the discussion I said that it would be unfortunate if the impression were conveyed by the discussion that there was an antagonism between treatment on sanatorium lines and treatment by tuberculin; that no idea could be further from the truth; and that vaccine-therapy and aëro-therapy were not mutually exclusive.

Returning to the question of prevention—which involves vastly wider issues than the cure of persons presently affected by the disease—it is unnecessary that I should dwell further on the far-reaching significance of the tuberculosis dispensary. It is an old institution, with a record of almost a quarter of a century behind it, and its purposes are widely recognized. It does seem, therefore, a pity that confusion should have been recently created by the adoption for a different institution of a name which in relation to tuberculosis, has already a definite significance throughout the empire, America, and different parts of the world.

To many communities in many lands the tuberculosis dispensary stands for the nucleus, the base of operations, and the *nodus* of the various factors which must be included in an effective antituberculosis organization.—I am, etc.,

Edinburgh, March 6th. R. W. PHILIP.

TUBERCULIN AND TUBERCULIN DISPENSARIES.

SIR,—From the recent correspondence in your columns it would seem that those in favour of the establishment of special dispensaries for tuberculin treatment are determined to ignore the two essential objections to this proposal. While tuberculin is an invaluable adjunct to treatment in private, sanatorium, or dispensary practice, it is inaccurate to term it a remedy or cure for all cases. The exponents of tuberculin dispensaries admit that it is contraindicated in "mixed infection," and in what proportion of cases of open pulmonary tuberculosis mixed infection exists is a much debated point, on which further investigation is required. My contention is that, even from the point of view of treatment, it is against the interests of the public and of the profession to limit this to a special line, which is admittedly inapplicable to all cases.

Even if tuberculin treatment could cure all early cases, it is merely a palliative and not a preventive measure, so far as the larger outlook on the ultimate abolition of this disease is affected. Sanatorium treatment or open-air treatment can attain lasting cures in the great majority of early cases; yet, even if there was sanatorium accommodation for all early cases, this could never bring about the eradication of pulmonary tuberculosis. What has limited the sphere of sanatorium treatment also limits the value of tuberculin or any other special treatment. We may cure the early cases by open-air treatment at a sanatorium or at home; we may treat them on general, medicinal, or specific lines; but, so long as the sources of infection continue to exist in our great centres, so long will each new generation continue to be infected and the evil remain. Were we dealing with a disease the causes whereof were unknown it would be right to concentrate solely on the treatment of individual cases. As, however, we are faced with a disease the cause of which is known, the conditions predisposing to which have been ascertained, a policy which neglects these factors is hopelessly limited. It is the advanced, undiagnosed, and ignorant consumptive who scatters infection throughout the overcrowded, ill-ventilated, and underfed homes of the poor, so that whole families are literally decimated, and children infected before they enter the critical age periods of life.

In the practice of curative and preventive medicine tuberculin should have its place, and, so far as the consumptive poor are concerned, its place should be as a diagnostic and therapeutic agent in selected cases in the practice of an antituberculosis dispensary, as the term is used in Europe and America, which correlates this and all known weapons at our command. At these dispensaries cases in all stages receive suitable treatment, but beyond that the dispensary is the base from which an aggressive warfare against the sources of the disease is carried on. We realize that the chief sources of infection exist in the homes of the people in our great cities, and here the dispensary attacks the malady. To the dispensary, which is free to all, patients who are not already under a medical practitioner may go for examination, diagnosis, and treatment. From the dispensary a physician and nurse visit the homes of the patients, who are thus educated in open-air treatment, and in the protection of others by the observance of a few simple precautions. The ignorant consumptive is the source of infection at home and abroad; the educated consumptive is a danger to no one. The medical officer also examines all those who have been in contact with the patients, and thus the early cases are diagnosed and cured while they are yet curable. From the dispensary suitable cases are sent to sanatoriums for cure, advanced cases to special hospitals, and children are taught the value of fresh air and sunlight. In every department of its activity the dispensary works in intimate association and co-operation with the public health authority, and with various charitable agencies. The dispensary is the central bureau for the collection and dissemination of all information regarding tuberculosis.

This is the dispensary system for the prevention of consumption which has received the official endorsement of the Local Government Board of Scotland, and is now a world movement. It is a scientific and philanthropic effort: scientific because it is based on convinced knowledge and systematized reason; philanthropic because it places treatment within the reach of every consumptive in this country.—I am, etc.,

London, March 1st. HALLIDAY SUTHERLAND.

CAESAREAN SECTION IN SEPTIC INFECTION.

SIR,—In the report of the Royal Society of Medicine's meeting appearing in the BRITISH MEDICAL JOURNAL for March 1st, I am made to say:

> In suspect cases where bacteria could be demonstrated hysterotomy [hysterectomy] offered many advantages over Caesarean section.

The omission of the word "not" has entirely altered the meaning of what I really did say. The sentence should read: "In suspect cases where bacteria could 'not' be demonstrated," etc.

In suspect cases with demonstrable septic bacteria in the liquor amnii I believe complete extirpation of the uterus would offer the best hope of subsequent recovery, and I clearly pointed out that such an operation could be undertaken without fear of spreading the infection thereby.—I am, etc.,

Dublin, March 7th. E. HASTINGS TWEEDY.

DIAGNOSIS AND TREATMENT OF SYPHILIS.

SIR,—A statement was attributed to me on page 1826 of the JOURNAL of December 3rd, 1910, by Drs. Stopford Taylor and R. W. MacKenna, who, in referring to my letter in the JOURNAL of October 15th, 1910, state:

> The Major has committed a serious error in tactics by admitting that he does not believe in the reliability of the Wassermann test, and then making use of a quotation by Mr. McDonagh, who found that it was almost a rule to obtain a *negative* reaction after a patient had had a course of inunctions or *less frequently injections*.

I wrote that,

> In the *early primary stage* before development of rash, and before the stage of *systemic* generalization, the classical signs of induration in the chancre associated with bullet glands, discrete or hyperplastic matting, are, in my opinion, more reliable signs of infection with syphilis than the Wassermann serum diagnosis test. The test *at this period* is unfortunately very uncertain, and not infrequently in my experience when a *negative* result has been recorded syphilis has later supervened. The test, therefore, in order to be conclusive, requires, I think, to be standardized.
>
> In order to ensure scientific accuracy it might be preferable that the clinical signs should be unknown to the pathologist who performs the test. Such independent results are more convincing.

Speaking of intramuscular *insoluble* mercurial injections, it is further stated by Drs. Stopford Taylor and R. W. MacKenna:

> Of the 26 fatal cases to which Major French refers, we have access at the moment to the details of two only, which occurred in the troops of the Egyptian command in 1901.

The large bulk of these fatal cases occurred, however, in civil practice on the Continent, and not in military practice. The details are readily accessible, as 7 were quoted by Dr. Pernet,[1] and some 12 or 14 by me.[2] Drs. Stopford Taylor and R. W. MacKenna replied to these articles.[3] Sir Jonathan Hutchinson, I believe, also quotes some 6 or 8 fatal cases in the last edition of his work,[4] and comments adversely on intramuscular injections of insoluble preparations of mercury in civil practice. The experience of a large number of other persons on the relative therapeutic utility of mercurial injections and inunctions was recently given in a discussion on the present position and treatment of syphilis at University College, London, on June 7th and 14th, 1910.[5]

Later, a discussion took place on the diagnosis and treatment of syphilis.[6]

The evidence in England, according to the above recent literature, does not at all support intramuscular insoluble mercurial injections as the best method of treating syphilis.

Speaking of mercury in its relationship to the Wassermann serum reaction, Mr. McDonagh, London Lock Hospital, stated:

> Injections play a subordinate rôle to inunctions.

Mr. C. F. Marshall stated:

> Injections are no doubt useful in army and navy cases, but irksome and expensive in private practice.

Mr. H. W. Bayly, as the result of Wassermann tests stated:

That 82 per cent. of cases treated by inunctions and 35 per cent. of cases treated by injections showed some effect of treatment after only three months. As far as he (Mr. Bayly) has gone, therefore, his conclusion is that inunction is the best form of administration of mercury, and he gathers that Mr. McDonagh's large Continental experience leads him to this opinion.

Mr. McDonagh, who has applied the Wassermann test in over 5,000 cases of syphilis, stated:

That it was almost a rule to obtain a negative reaction after a patient had had a course of inunctions or *less frequently injections*.

Mr. Jonathan Hutchinson, junr., stated:

That in cases of inherited syphilis he gathered that the Wassermann reaction was present whatever courses of intramuscular injections were given . . . if it was true, it was a commentary on the advantages of intramuscular injections.

The foregoing evidence is quite distinct from any opinions that I may have personally expressed on the *therapeutic superiority* of inunctions over injections of *insoluble* preparations of mercury.

In my practice in the army I am primarily concerned with utilitarian aspects. I reserve grey oil injections, therefore, as convenient for out-patients, and merely to supplement mercurial *inunctions* in hospital. I consider that at least one thorough course of forty to fifty inunctions—

Ung. hydrarg. *B.P.* ⅔ of a drachm; lanolin or other base ⅓ of a drachm—

in the early stages (that is, first six months) is of inestimable value, whilst the patient in military employ is *necessarily* in hospital in the chancre and initial secondary stage. The length of time in hospital and relapse are ultimately considerably lessened.

The inunction, like other methods, naturally requires care and experience. The mortality, however, is small; I have only personally known of one fatal case, which was not under my care. The total list on record, however, will bear very favourable comparison with mercurial injection: 26 deaths; and salvarsan ("606"), 15 fatal cases during the past year.—I am, etc,

Malta, Feb. 7th. H. C. FRENCH, Major R.A.M.C.

REFERENCES.

[1] *Lancet*, July 24th, 1909. [2] Ibid., September 25th, 1909. [3] Ibid., October, 1909. [4] *Syphilis*, 1910. [5] *Proceedings of the Royal Society of Medicine*, Surgical Section, July, 1910. [6] British Medical Association, Dermatological Section, August, 1910.

CONTROL OF VENEREAL DISEASES.

SIR,—Having read the letters bearing on the above subject, which appeared in the BRITISH MEDICAL JOURNAL,[1] I beg to offer the following remarks:

1. A careful study of the Blue Books, dated 1881 and 1882, embodying the Report on the Contagious Diseases Acts, will demonstrate the fact that of all the arguments raised by those opposed to the Acts the strongest and least refutable alleged that State legislation was useless, because:

(*a*) There was no means of determining whether a vaginal discharge was of venereal origin or not.
(*b*) There was no means of distinguishing between primary venereal sores, between hard and soft, or dirt sores.
(*c*) There was no means of definitely prognosticating whether any given sore would or would not be followed by constitutional symptoms.
(*d*) There was no means of knowing when a patient ceased to be infective and might be discharged from hospital.
(*e*) That venereal disease could not be accurately diagnosed by the mere appearances of the case under several circumstances.
(*f*) That there was no power to compel patients to remain in hospital till apparently cured, and if such was granted there would not be sufficient accommodation or funds to enable patients to be detained perhaps for years.

It is needless to argue that the discovery of the bacillus of Ducrey, the gonococcus, and *Treponema pallidum* now remove all but two of these specified objections. The Bordet-Gengou and Wassermann reactions will disprove another. And it may reasonably be expected that modern methods of treatment would reduce the lengthy detention in hospital. If "606" only partially fulfils all that is hoped from its use, then indeed the last objection I enumerated may be cancelled. Certainly a combination of the various scientific discoveries now at our disposal should, by the blessings they bestow, go far to compensate and appease those whose susceptibilities were distressed by the application of the Acts.

2. The several Commissions appointed from time to time to report on the working of the Acts went exhaustively into the *pros* and *cons* of the subject, one committee extending its inquiries over an unprecedented time. One cannot help feeling, therefore, that with the exception of an account of the advances made in medical work, not a single point could be conceived which has not already been thoroughly deliberated upon in the several reports of the Commissions. The Blue Books of 1881 and 1882 alone contain in dense type over 1,000 folio pages. For this reason I do not think that any definite advance can be made in limited letters addressed to the medical press.

3. The utility of the "Acts" was considered by experts. They considered reams of evidence extending over many years, and as the result of their prolonged and impartial deliberations they in each instance declared in favour of State legislation.

4. In "notification" I believe we have a great prophylactic power. The objections to the Acts would not here apply. I refer to the grievance that only one class of the community were penalized (women), whilst men were allowed to go free. If notification were adopted medical men should be compelled to warn each patient of the dangers of infecting others. In the majority of instances, if not in all, it should be possible to trace the disease to its origin, and the offender not being able to plead ignorance should, irrespective of sex and social status, be proceeded against by the Crown as the author of a criminal offence.—I am, etc.,

Dublin. SEYMOUR STRITCH.

[1] BRITISH MEDICAL JOURNAL, 1910, vol. ii, p. 2005, and January 7th, 1911, p. 55.

CONGENITAL HEART-BLOCK.

SIR,—The Epitome of Current Medical Literature on January 28th, par. 46, contains an abstract of a paper by Fulton, Judson, and Norris, entitled "Congenital heart-block occurring in a father and two children, one an infant" (*Amer. Journ. Med Sci.*, 1910, cxl, 339–348).

The time is not far distant when a sufficient number of cases of heart-block will have been reported to allow of their collective and systematic analysis. It is the appearance of the note in the Epitome, and the fear that in a synoptic article heredity may find its place under the usual heading "Etiology," which induce me to criticize the paper of the authors named.

The conclusion arrived at or implied, namely, that heredity may be directly and solely responsible for heart-block, is of so startling a character, that we should show little wisdom if we accepted it, in the absence of anything but the fullest evidence. The evidence brought forward by Fulton, Judson and Norris is outlined in the following paragraphs, which also include the criticisms which I venture to offer in respect of it.

CASE I.—J. S. B., the father, aged 41, "On one occasion after severe exertion lasting all day, he had general epileptiform convulsions" (presumably a single attack of unknown nature, and occurring at least seventeen years ago), "vertigo on stooping." Average pulse-rate, 50. The pulse curves purport to show 3:1 heart-block.

The criticism of this report is as follows

1. The symtomatology, on the whole, is rather opposed to, than in favour of, persistent partial heart-block.

2. The curves do not show heart-block. The waves marked *a* in the jugular curve occur at a rate of 156 per minute. The patient must be supposed to be the subject of a persistent acceleration of sinus rate of a high grade. Despite the presence of this supposed acceleration, in itself throwing the gravest doubt upon the interpretation of the curve, the *a* waves are not placed in regular sequence. From one complete cycle to the next the waves marked are: a^1, *c*, a^2, a^3, a^4, *c* (numbered for the convenience of present description). The distance between a^1 and a^2 is usually 0.5 second, between a^2 and a^3 0 3 second, between a^3 and a^4 0 4 second, or slightly less. What is there to account for this deviation from the positions which would be held by a regular series on the assumption of heart-block? There is nothing.

Now the wave a^2 falls precisely at the point where v is expected, and a^3 falls where in the instance of a slow pulse Hirschfelder's h wave is due. The general appearance of the latter (a^3) in the curves favours a distinct mechanism of production. The rational interpretation of the curve is: a, c, v, h, a, c, a normal and not infrequent type of venous curve when the pulse is slow. The curve certainly does not justify a diagnosis of heart-block.

CASE II.—M. B., aged 20. "Does not suffer from vertigo, faintness, or dizziness, and has never had convulsions. Pulse 68 in sitting posture, 60 lying flat." The curves purport to show 2:1 heart-block.

The criticism of this report is as follows:

1. The usual symptoms of partial heart-block have been totally absent.

2. The curves do not demonstrate heart-block. The waves marked a in the jugular curve occur at a rate of 150 per minute. Here, again, the patient must be supposed to be the subject of persistent acceleration of the sinus rate of high grade. And again, and despite the acceleration, the a waves marked fail to show the expected even spacing. From one complete cycle to the next the marked reading is: a^1, c, v, a^2, a^3, c. The distance between a^1 and a^2 is usually almost twice as great as between a^2 and a^3, an occurrence which hitherto has never been seen in association with clinical heart-block.

Now the summit of the wave a^2 falls at the opening of the tricuspid valves, as calculated from the arterial curve, the point at which v is expected. The rational interpretation of the curve, therefore, is: a, c, v (split), a, c. Splitting of v into two component parts is well known, and curves such as that published are often obtained from patients in which no suspicion of heart-block exists.

CASE III is of little consequence, as it is not used in the main argument.

CASE IV.—L. B., aged 22 months. Pulse slow, 40–58. In regard to the curve published the authors state: "The interpretation of some of the waves may perhaps be questioned, but considering the difficulty of 'tracing' such a young subject, a better result could hardly be expected."

The curve is admittedly defective, and as such it is impossible to analyse it in detail. Personally it gives me the impression of having been taken, as the authors believe, from a case of complete heart-block, but it is impossible to feel secure about it where such an important conclusion is founded upon it.

In brief, of three cases in one family instanced as the subjects of heart-block, in no single case is heart-block proved, and in only one instance, in which admittedly defective curves were obtained, does the account given render its existence in the least degree probable. It is upon *this evidence* and not upon the summing up of the authors that we are called upon to accept or reject the proposition that heart-block may be hereditary. If we admit the authors' interpretation of those curves which are clearly inscribed, we admit not only the unique occurrence of familial heart-block, but we admit the occurrence of a rare, if not undescribed, familial disorder—persistent acceleration of the fundamental heart-rate of high grade, an acceleration accompanied by types of auricular irregularity quite unexplained and hitherto never reported. It is obvious that there is but one safe course open to us, and that is to reject the main proposition until we are supplied with far more certain data. Personally, I should hesitate to accept such a conclusion with any but the clearest venous curves before me, and it would be far more satisfactory if electro-cardiographic evidence was forthcoming.—I am, etc.,

University College Hospital Medical School. THOMAS LEWIS.

OSTEO ARTHRITIS AND ITS RELATION TO CHRONIC RHEUMATISM.

SIR,—At the recent meeting of the Section of Balneology and Climatology of the Royal Society of Medicine, reported in the JOURNAL of February 18th, p. 365, Dr. Buckley, in discussing this question, said that "bony changes occurred in many diverse forms of arthritis, such as pyaemic tuberculosis, gonorrhoeal and gouty arthritis, and in the arthropathies, as well as in those conditions to which the name was more definitely applied; but in many cases of so-called osteo-arthritis the stage of bony change was never reached."

I presume by bony change Dr. Buckley means bony proliferation. Now, the osteo-arthritic changes occurring in pyaemic tuberculosis and other destructive forms cannot in the strict sense of the word be called true osteo-arthritis, because in these cases the bone proliferation always takes place at the point of infection, wherever that may be, and not at the margin of the cartilage as in true osteo-arthritis. Again, Goldthwaite, of Boston, says that in skiagrams of what he calls infectious arthritis, changes in the cartilage and bone are not observed, but that in gout and rheumatoid arthritis atrophic changes are seen in both cartilage and bone. The group of pathological changes which we call at present osteo-arthritis embrace a variety of states of bone proliferation, such as Heberden's and Bruce's nodes, and cases with marked eburnation and hypertrophy.

Now osteo-arthritis appears to be a degenerative process and has in many ways a considerable similarity to arterio-sclerosis. Both conditions as a general rule tend to make their appearance in subjects who are over 45, and it is in these patients suffering from gout, rheumatoid and infective arthritis who have reached what I might term the "degenerative period of life" that we see bony proliferation taking place. Numerous cases of rheumatoid arthritis which have existed for ten, fifteen, or twenty years show no bone proliferation, but on investigation it will be found that the great majority of these have not reached this "degenerative period." This is well seen in the skiagrams of Strangeways and Burt reproduced in the first number of the *Cambridge Bulletin of Special Diseases*, and accounts for the great difficulty experienced in distinguishing the skiagrams of gouty and rheumatoid arthritis without the clinical histories. I think that far too many cases of arthritis are labelled "rheumatoid." Compared with other types of infective arthritis, rheumatoid arthritis is a comparatively rare condition, and, as Dr. Mouillot says, many patients' lives are made miserable by being told that they are suffering from rheumatoid disease.

Briefly, rheumatoid arthritis is a disease which commences in young adults, and is characterized by premonitory symptoms of cramps, atrophy of muscles, and vasomotor changes, followed by periarticular changes, more especially in the small joints of the fingers, affecting subsequently the larger joints. The disease is atrophic, progressive, symmetrical, and very frequently centripetal. Atrophic changes subsequently follow in the cartilage and bone, producing marked deformity and ankylosis, both fibrous and bony. There is atrophy of the skin and of the subcutaneous tissue of the joints involved, frequently pigmentation of the skin of the face, tachycardia, and slight pyrexia. In the ordinary infective varieties of arthritis there is marked pyrexia, localized redness and swelling of the limb or the affected joint. The large joints are by preference attacked; the disease is not progressive, symmetrical, or atrophic; cartilage and bone are not involved. The wasting of the muscles is not excessive, and there is frequently well-marked leucocytosis.

In addition there are a large number of chronic infective joint conditions, known to us by the name of "chronic rheumatism," or "chronic villous arthritis," and it is in these cases that the great difficulty in diagnosis occurs. I think that they must be regarded as very chronic types of infective arthritis, in which the dose of the poison is continuous but small in amount, or, as Ackerley suggests, the personal resistance is greater. In these cases there is no bone proliferation unless the patient has arrived at the "degenerative period" of life. The knee-joints of women about the time of the climacteric are typical examples; here there is a very chronic infective condition, which gives rise to few, if any, symptoms beyond a little stiffness until osteo-arthritic changes commence at the climacteric on the under surface of the patella and at the margin of the articular cartilage of the femur. In no sense can these cases be called rheumatoid disease, as is so frequently done. Whether these changes are entirely due to an infective condition, such as leucorrhoea, or colitis, or in some way occasioned by the withdrawal from the

system of the ovarian secretion, it is at present impossible to determine.

I believe, with Dr. Ernest Young, that only by careful clinical notes of these cases carried over several years, together with skiagrams of the joints taken from time to time, shall we be in a position to say definitely that the condition we call osteo-arthritis is simply a degenerative process, which may follow in any joint where there has been chronic irritation, be it gouty, infective, rheumatoid, or due to trauma.—I am, etc.,

Harrogate, Feb. 20th. G. L. KERR PRINGLE.

PHYSIOLOGICAL OR POSTURAL ALBUMINURIA IN GIRLS AND YOUNG WOMEN.

SIR,—The fact that postural, physiological, or orthostatic albuminuria is met with so frequently in young males that its occurrence in females also is apt to be forgotten depends to a considerable extent upon the fact that far larger numbers of healthy adolescent males are examined as to their urines in connexion with bank clerkships, entries into Government services, life insurance policies, and so forth, than is the case with females. It would be an error to suppose that similar physiological albuminuria cannot also occur in adolescent females, and my particular attention has been drawn to this fact by the following letter from Dr. Edward Somers:

4, Leaf Square,
Pendleton, Manchester.

Dear Sir,

I have read with great interest and advantage your clinical lecture in this week's BRITISH MEDICAL JOURNAL. Such a lecture is a delight to the general practitioner, but I venture to point out that in the last section on "postural albuminuria" you convey a very distinct impression that that condition is limited to young males. I have several young females whose urine and general condition I have tested repeatedly for five years and upwards, and their urine has all these freaks that you mention—free from albumen first thing in the morning, and with more or less even after a cup of tea; sometimes albumen absent in the afternoon and in considerable quantity at night. These girls are in every other way normal, and some of them fine girls, developing splendidly from childhood up. Some have had definite scarlatina without any albumen during the attack and showing it afterwards, whilst some have never had any signs of scarlatina. It would be well, I think, if you could correct the impression which undoubtedly your able lecture will give. I hope you will pardon my presumption in writing this note.

Yours faithfully,
EDWARD SOMERS.

I am grateful to Dr. Somers for his permission to publish this letter, which will, I hope, serve to correct what otherwise might be an erroneous impression in regard to the sex distribution of physiological albuminuria.—I am, etc.,

London, W., March 2nd. HERBERT FRENCH.

THE CAUSE OF APPENDICITIS.

SIR,—Some of the views as to the cause of appendicitis recently expressed in the JOURNAL seem rather far-fetched.

We all know that Nature is an excellent designer, and she has really designed the appendix as a grease cup to lubricate the passage of the faeces up the ascending colon—a very stiff climb. The semi-liquid intestinal contents pass readily enough along the small intestine, but when they reach the ascending colon the fluid part has been absorbed and the faeces are more or less solid, and the coefficient of friction being greatly increased (to say nothing of the work done against gravitation) Nature has wisely fitted an automatic lubricator—the appendix. I think this is indisputable. Any one who has taken the trouble to palpate the ascending colon in thin multiparous women must often have noticed the hard accumulation of faeces which fill the ascending colon.

Is it any wonder that the appendix in its endeavour to supply more "grease" should become congested? and if the hard faeces block its exit, it is only natural that it should dilate and suppurate.

A mixture of magnesium sulphate, especially if the case is seen early, will soon put matters right, and we shall read and hear less frequently that "he died after an operation for appendicitis."—I am, etc.,

Sunderland, Feb. 20th. THOS. A. WATSON.

SIR,—It may be of interest to note, in connexion with the correspondence on the above, that in Madagascar (Betsileo Province) appendicitis is a comparatively rare disease. In a total of from fifteen to twenty-five thousand patients per annum we had not more than three or four cases annually. It was also noted that in a large series of abdominal operations the organ appeared almost invariably healthy and free of adhesions.

Remembering that the appendix has been called the "abdominal tonsil," it is also remarkable that enlarged tonsils and adenoids are equally uncommon, and that typhoid fever is almost unknown except in one or two large centres with mixed populations, where the disease has evidently been introduced by Europeans, and in whom it most frequently occurs.

Does this indicate an increased vulnerability in the lymphoid tissues of the white man, and is appendicitis more frequently found in those who have had any of the above affections?

The diet of the Malagasy consists mainly of rice and herbs, and a fair amount of beef and pork is consumed in the large towns and more populous districts. The natives rinse their mouths after every meal. They assume the squatting posture when defaecating, and go regularly to stool in the early morning immediately after rising. This posture, I believe, partly accounts for the infrequency of acquired herniae amongst them. Ought we not invariably to advocate this position at stool, not only in those who suffer from constipation, but also when there is a tendency to the formation of, or after operations for, herniae, and for all children?—I am, etc.,

Parkstone, Dorset, Feb. 24th. GEO. H. PEAKE, F.R.C.S.E.

THE TREATMENT OF MORPHINOMANIA BY THE COMBINED METHOD.

SIR,—In the JOURNAL of February 18th Dr. John Q. Donald criticizes at some length the views contained in my paper on this subject. Dr. Donald says: "In my opinion the pain and distress which arises (*sic*) in the cure is valuable as a deterrent to resumption of the habit." I repeat that, in my opinion, the first requisite of any such treatment must be *painlessness*. It follows that as our therapeutic aims are so divergent our methods must necessarily be at variance. Under these circumstances discussion and comparison are alike futile.

I shall only add that from what I gather of Dr. John Q. Donald's method I feel convinced that it attains to his ideal of being a *painful* treatment for morphinomania.—I am, etc.,

H. CRICHTON MILLER, M.D.Edin. and Pavia.

San Remo, Feb. 22nd.

SIR,—I cannot let Dr. Donald's indictment of Dr. Miller's paper, seeing that it concerns me along with Dr. Miller, pass unnoticed.

The "combined treatment," resting as it does first, last, and always, on the recognition of two distinct stages in the treatment of morphinism, is sufficient to show that we have not lost sight of them.

The question, "Why does Dr. Miller insist on the cure being painless?" concerns me as much as Dr. Miller. I insist on the cure being as painless as possible for what seem to me good and sufficient reasons:

1. On ordinary humanitarian principles.
2. Because I believe the first principle of therapeutic treatment to be the relief of pain, physical and mental, except in the few cases where it is impolitic to relieve pain completely for fear of cloaking unduly the progress of disease towards recovery or the reverse.
3. Because we aim at mental and physical rest, and pain and mental distress are inimical to their attainment.
4. Because I emphatically deny that there is any proof that suffering experienced during a cure is any deterrent to relapse.

This question has caused me considerable surprise, but no more surprise than other points in Dr. Donald's letter, which seem to me inconsistent and contradictory. For instance, he condemns the alleviation of pain and mental distress, and then goes on to tell us how he alleviates "mental distress," "neuritic pains," and "insomnia." I have never had the misfortune to encounter a "tendency to coma" or "delirium" in the treatment of morphine habit, and am surprised to find that Dr. Donald counts

them among the "principal symptoms that may arise as reduction goes on." Are not "neuritic pains," "insomnia," "diarrhœa," and "mental distress" invariable symptoms of reduction rather than symptoms that may arise? Is not "constipation" a symptom of morphinism rather than a symptom "that may arise during reduction"?

It would be interesting to know on what grounds Dr. Donald makes the following dogmatic statements: "*It is absurd* to try it [hypnotic suggestion] on a patient who is actively taking the drug, *it is of little use* when the drug is being abolished, *and it is of no use* in effecting a permanent cure." (The italics are mine.)

Do not such statements argue a want of knowledge of treatment by hypnotic suggestion or do they argue an experience and knowledge of it far in advance of that of such men as Bramwell, Bérillon, Forel, and Moll, to say nothing of such "American medical men" as Munsterberg, Sidis, Freud, and others, whose teachings do not bear out in any way these dogmatic statements? To say that in "the few cases he has met where a permanent cure has followed hypnotic treatment," he believes the patients would have been cured without, is a mere statement of belief, for the adoption of which he gives us no grounds whatever.

I would suggest to Dr. Donald that it might be "putting" less "strain," and "taking" less "liberties with a patient," to reduce his sensibility to pain and distress by bromidization than to subject him to such physical pain, mental distress, and exhaustion as would tend to make him liable to develop "delirium" or "a tendency to coma."—I am, etc.,

J. W. ASTLEY COOPER.

Ghyllwoods Sanatorium, nr. Cockermouth,
Feb. 24th.

*** This correspondence must now close.

RADIUM IN CANCER.

SIR,—I read with much interest Dr. Morton's paper (February 25th, p. 429), especially that part on the combined use of radium and *x* rays in the treatment of recurrence after operation on malignant growths in the breast. He is to be congratulated on the favourable results obtained in a certain proportion of his cases. He refers to the fact that few cases so treated have been recorded in this country, but most of the radio-therapeutists here have not had their cases long enough under observation to give a fair opinion as to whether a cure has been effected.

Dr. Morton's method is the one I have carried out in an increasing number of cases, at first sceptically and with little hope, but later with a much more favourable expectation. For nodules of cancer recurring in the scar or skin around I use the radium applicators, guarded or unguarded with the lead screens as seems advisable for the particular application. I also use them well guarded for the enlarged glands. In addition I apply *x* rays to these and surrounding parts, using a tube (4 to 6 in. spark gap) suitably guarded by thin aluminium foil and two layers of tungstate lint. Dermatitis is avoided easily by this method.

In about 15 per cent. of the cases treated the skin growths have disappeared, the enlarged glands dwindled very much, and the patients remain in good health after a year. The failures are the remaining 85 per cent.; some are dead, some very ill indeed, and in some the disease is slowly but surely progressing. In all the cases which "recovered" (?) no time was lost on the first sign of recurrence.

Probably the percentage of recurrences might be sensibly diminished if the application of *x* rays were a routine procedure after operation. A case sent on to me was one in which early recurrence was expected. The patient has undergone two courses of *x* rays since her operation, and at present—one year after—is free from any signs of the malignant growth. This, of course, proves nothing; but another patient, a lady of 65, had definite skin recurrences which have gone altogether, and a mass of enlarged supra-clavicular glands which have shrunk until they are only just palpable. For six months since her last treatment she has remained well.

Pain in many was greatly relieved, although the disease was not arrested.—I am, etc.,

Brighton, Feb. 27th. C. FRED. BAILEY.

RHEUMATIC PURPURA AND PELIOSIS RHEUMATICA.

SIR,—Permit me to acknowledge Dr. F. J. Poynton's courtesy in replying to my letter of February 11th, and to express my thanks to him for so clearly stating that in his opinion peliosis rheumatica is "sometimes, possibly often, a rheumatic symptom."

It is of course true, as Dr. Poynton says, that purpura is the result of many diseases, but I see no necessity to suppose that the particular form of purpura known as peliosis rheumatica is similarly due to many causes. That it has been so definitely separated out from the other forms of infective purpura suggests that it is a separate condition, and to me it appears at least as distinct an entity as is erythema nodosum.

If this be granted the objections to its being considered as ever due to rheumatism remain. The haemorrhagic lesions in rheumatism (including rheumatic purpura) occur in the severest forms of the infection; while in peliosis the "rheumatic" symptoms are slight, and are not greater than in some other infections (for example, influenza or erythema nodosum). Before making peliosis an exception to this rule apparently governing the appearance of haemorrhage in rheumatism we need very convincing proof of its rheumatic origin—evidence far more convincing than that at present forthcoming. The examples in which unmistakable rheumatism and peliosis are in any apparent relationship to each other are so very few that the very paucity of the evidence suggests to my mind that they are due, not to the same, but to different infections. It seems to me almost impossible if rheumatism ever produces peliosis, that, both conditions being so common, the evidence suggesting a direct causal relationship should be so very small.

As to the etiology of rheumatism in which I too am keenly interested, I cannot help thinking that an accurate conception of the symptomatology of the infection and the exclusion of doubtful and border-line phenomena will be found to be essential to further progress.—I am, etc.,

London, W., Feb. 20th. REGINALD MILLER.

TREATMENT OF PEENASH.

SIR,—I have read with very great interest Dr. J. W. Lindsay's memorandum on Treatment of Peenash in the BRITISH MEDICAL JOURNAL of February 18th.

For more than a quarter of a century I have used calomel in this condition whenever occasion arose, and described the treatment in the BRITISH MEDICAL JOURNAL of February 13th, 1904, from which the following extract is taken:

> The other drugs, such as turpentine, which have been recommended for destroying maggots, are uncertain, irritating, and very painful. On the other hand, calomel acts rapidly, certainly, and without causing the slightest pain or discomfort. It also seems to destroy or neutralize the excretory products of the larvae, which are often sufficiently irritating to excite considerable inflammation and high fever.

—I am, etc., G. H. YOUNGE, F.R.C.S.I.,
Lieutenant-Colonel, R.A.M.C. (Ret.).

Clacton-on-Sea, Feb. 20th.

A PLEA FOR THE COMPULSORY NOTIFICATION OF MEASLES.

SIR,—For some years now it has been evident that there is full need for the compulsory notification of measles.

The *Daily Telegraph*, in its issue dated February 21st, 1911, contained the statement, quoted from a "well-known coroner": "That among the very poor it is estimated that 20 to 30 die out of every 100 attacked by measles."

Again, recently we had the annual mortality statistics for the London area, showing that measles ranks first in the death-rate. Only last week the deaths from this eruptive fever in London were 103, being 60 above the average. Then the present epidemic at Dartmouth will have emphasized the serious nature of this infection, as out of a total of 101 cases 2 deaths have occurred from meningitis—and this, too, among lads who have all the advantages that healthy surroundings, good food, medical attention, and efficient nursing can ensure.

In the reports of the L.C.C. Medical Education Officer

for the twelve months ending December 31st, 1909, we are told that Mr. Macleod Yearsley carefully analysed 500 cases of deafness in the L.C.C. Deaf Schools and found that 77 of these were due to acute infectious diseases, 41 being the result of measles, 22 of scarlatina, and 6 of diphtheria.

To come to the part with which I am more directly concerned—namely, the after-effects of measles on the eyes—it is my wish to impress the fact that many eyes are permanently damaged through this cause, the most frequent result being corneal opacities with impaired visual acuity, and this fact has been more forcibly brought to my notice during the last nine months, through the exceptional opportunities that I have had of seeing such results in the treatment of over 600 eye cases in the departments for the treatment of London County Council school children at Moorfields Eye Hospital and the Great Ormond Street Hospital for Sick Children. Among the commoner results noted are blepharitis with displacement and loss of lashes, keratitis, corneal opacities, and leucoma adherens with irregular astigmatism, strabismus, and nystagmus as indirect results. As may well be imagined, the loss of visual acuity attendant on these sequelae is of real and serious import, and I feel most strongly that if, only from the ophthalmic point of view, yet there is full and grave need for the compulsory notification of measles, and moreover, if notification were adopted, that these disfiguring and disastrous results would be almost entirely obviated, for notification ensures medical attention, as well as serving to impress on the laity the severity of the infection, which up to now—at any rate among the poor—has been looked upon as one of the minor childish complaints.—I am, etc.,

Harrow, Feb. 22nd. FRANK MOXON.

QUALIFIED OPTICIANS.

SIR,—The letter written by the editor of the *Optician* in the JOURNAL of March 4th established the following somewhat interesting points: (1) By displaying an advertisement to the effect that all kinds of defects of eyesight are examined *without charge* by means of the latest scientific apparatus, the optician succeeds in attracting to his shop a number of people who could pay not only the fee of the general practitioner but also that of the consultant. (2) He thereafter, assuming professional medical functions, decides whether the case is a "morbid" one or not, and, in the rare event of his discovering a "morbid" condition, such a case is referred to a medical specialist.

It is superfluous to remark that the sum paid for spectacles frequently amounts to a great deal more than the fee of a general practitioner for examination alone or even for examination and the supply of glasses.

In time the greater interest taken in the study of ophthalmology by medical men will discredit this fee-less examination by opticians. In the meantime, those practitioners who wisely undertake the treatment of optical defects would do well to consider whether it is advisable to send their patients to be supplied with glasses to those opticians who are doing their best to decoy them from their only safe and legal advisers.—I am, etc.,

March 4th. KRYPTOK.

SIR,—In arguing this case from the standpoint of similes, my friend, Dr. Seymour Taylor, exposes the weakness of his position. He cites "as a further illustration" of his pleading for the qualified optician the fact that "the Legislature has ordered that a board of examiners shall be constituted who may, after due trial and examination, grant a diploma to certain women, who are then entitled to attend their poorer sisters in the hour of their trouble." But matters of midwifery are generally matters of urgency, thus making a competent midwife often a necessity. On the other hand, there is no such urgency—no case involving life and death—in respect to an error of refraction. Hence the principle of expediency and necessity, which has led to the legalization of an "inferior order of practitioners"—using this term in no offensive sense—in midwifery, does not, cannot, apply to opticians. As a matter of fact, every effort made by representative opticians to obtain legislative regulation of their status has failed. But again the qualified midwife differs, in the character of her diploma, from the qualified optician. The former is compelled by law to summon medical aid in all cases of difficulty, while the optician, under the diploma granted by a livery company by which he becomes "qualified," is under no compulsion to act otherwise than as he pleases in any and every case, save, I believe, that he is prohibited from using a cyclopegic in the examination of the vision.

The picture which Dr. Seymour Taylor draws of the forlorn "township supporting two medical men and also an optician who holds the Spectacle Makers' diploma" is scarcely an arguable asset in favour of the qualified optician. The question concerned is not one of mathematics, geometry, or environment, but of principle and of principle alone. That is the point, the only point in this discussion, whether it was advisable to express publicly approval of the establishment of a "new order of practitioners," represented by the sight-testing optician, for the performance of duties which are distinctly medical, and which belong to the medical man's work. Another point of weakness in Dr. Seymour Taylor's argument is—that errors of refraction are not the only defects from which the poorer class community to which he refers suffer. What becomes of their other ailments when such people cannot afford the fees of a consultant and are loth to visit a hospital? Let us suppose a case of deformity of the spine—the logical inference from Dr. Seymour Taylor's argument would be that such a patient should at once go to the shop of a maker of surgical appliances for a spinal support, and possibly this practice would prove very largely to be the case were the surgical instrument makers to advertise themselves and their work to the same extent and in the same manner as do the "qualified" opticians of the present day in the lay press.

But there is a moral to this discussion, and that is, seeing the hold which, through the action of the Spectacle Makers Company, the qualified optician has acquired over the public, medical practitioners should for the future realize the necessity of acquiring a practical knowledge of refraction work. In the past, it must be admitted, this has been neglected; hence the sight-testing optician has come into vogue publicly. On the other hand, if it came to be generally understood that the correction of errors of refraction always formed a part of the routine work of every medical man, it is possible that much of this class of work would pass into the hands of the profession, which now filters through the shop of the optician.—I am, etc.,

London, W., Feb. 27th. PERCY DUNN.

LADY HEALTH VISITORS OR WOMEN SANITARY INSPECTORS?

SIR,—As one who was to some extent responsible for the institution of the examination for health visitors by the Royal Sanitary Institute, I cannot allow Dr. Lawrence's letter to pass without a word or two of comment.

Dr. Lawrence is in social matters, as a rule, such a clear thinker, that I am surprised he appears to have failed to appreciate the difference between the functions of a health visitor and a sanitary inspector. Some of us with most experience in the matter think the training of a health visitor should be quite different from that of a sanitary inspector, and when a few years ago the appointment of health visitors became more common, it was difficult to find women who could show evidence of training and qualification for the work, hence the institution of the examination and certificate.

Dr. Lawrence suggests that the health visitors' examination is easier than that of the sanitary inspector, but having examined some hundreds of candidates for health certificates, I am compelled to disagree with him in this statement. The subjects are to a very large extent different, and hardly therefore comparable, but it is certainly an error to suppose that it is easier for a woman to obtain a certificate as a health visitor than that of a sanitary inspector.

The main subject raised incidentally by his letter however, is that of women's work in a sanitary department. Personally I have long since come to the view that a woman sanitary inspector is an anachronism. I can understand such an appointment in the first instance in

the course of evolution of sanitary administration, but now, when I hope that the old idea of sanitary work as being chiefly associated with plumbing and drain pipes is fast passing away, and that the true meaning of hygienic effort is beginning to be understood, I cannot understand the perpetuation of the office. There is an enormous field in which women can work, but their chief function should be a personal one, dealing with mothers and children, and I hold therefore that any such title as that of sanitary inspector militates against the value of their work. The less there is of an inspector about a woman the better, and in my own county I have ceased to give the health visitors any distinctive official badge on their uniform.

Dr. Lawrence objects to the title of lady health visitor, and I agree with him as far as the use of the word "lady" is concerned. This, I think, is certainly unnecessary and possibly objectionable, but with a very large experience of the use of the title of health visitor in every class of district, I have never observed the difficulties suggested by Dr. Lawrence—in fact, the one thing which has surprised and gratified me most is the testimony invariably received of the value of the work done from all classes of those among whom they visit.

There should be no mistake about one fact, namely, that the health visitor's certificate is given with the idea of showing that the recipient is better fitted for true health visitor's work than if she held only the sanitary inspector's certificate.

If Dr. Lawrence wants a woman to undertake the official work of the sanitary inspector, then by all means let him ask for evidence of training and certification in this work as well.—I am, etc.,

A. Bostock Hill,
County Medical Officer of Health, Warwickshire.

Birmingham, March 6th.

THE MEDICAL BRANCH OF THE NAVY LEAGUE.

Sir,—May I ask for the hospitality of your Journal again to draw the attention of the profession to the Medical Branch of the Navy League?

The object is to enlist the interest of medical men throughout the country, and to ask their help by their example and influence in keeping the country alive to the necessity of a strong navy. Without the absolute command of the sea our freedom and our life-interests are in peril. Still less can we regard the imperial and colonial portions of the British Empire as secure. Twelve years ago we were able to transmit more than 100,000 troops and all the transport for an extensive campaign 6,000 miles to the base of our operations without the mobilization of a single extra warship, and this in the face of the scarcely veiled hostility of two if not three first-rate Powers. Such at that time was our naval prestige that the millions necessary for such mobilization were spared; would it be so to-day?

Each medical man has much influence in his own locality, and can do much by himself joining and inducing his friends to join in the league, which is a strictly non-political body, and has for its object the advocacy of a strong navy to safeguard that security which forms an essential background to all advance in commerce, science, and the social conditions of the people.

I would point out that to be a member of the league a 5s. annual subscription is all that is necessary; it is the influence and advocacy that is wanted much more than money.—I am, etc.,

R. Douglas Powell,
President of the Branch.

London, W., March 6th.

P.S.—All who desire to respond to this invitation to join should send their names to the Secretary, Medical Branch of the Navy League, 54, Welbeck Street, W.

TO INCREASE THE MEMBERSHIP OF THE BRITISH MEDICAL ASSOCIATION.

Sir,—In your issue of February 18th, p. 405, Dr. Mears suggests that a whole-time man be employed to bring into the Association every member of the profession, and to do this suggests that the subscription be increased—so far, so good.

I have a suggestion to make, namely, that we form sub-branches in every county and do not increase the subscription; these could be run on somewhat the same lines as our friends "the clergy" run their ruridecanal meetings. There are somewhere about forty medical men in this county and I am not aware of a medical society of any sort. I therefore think a sub-branch or a medica society would be a welcome innovation.

A great number of men give us their reasons for not joining the British Medical Association that they cannot afford time to attend the meetings, as in many cases it would oblige them to be a night from home; and really I think this argument holds good, especially in Wales.

Trusting my letter will bring forth the views of others, I am, etc.,

Y. M. Jones-Humphreys.

Cemmaes, Montgomeryshire, Feb. 28th.

THE ORIGIN OF THE LONDON SCHOOL OF MEDICINE FOR WOMEN.

Sir,—As the question has been raised respecting Dr. Edmunds's supposed connexion with the London School of Medicine for Women, it may be well for me, as founder of the school, to say positively that he never had anything whatever to do with it; in point of fact I never saw him, nor had any communication with him, in my life. No doubt some classes of his were attended by Mrs. Thorne and Miss Chaplin, before they came to Edinburgh, but they had nothing to do with him subsequently, and in point of fact both of these ladies were, I think, in Paris when the first steps were taken about the London School. Miss Pechey was the only one of the Edinburgh students who was present with myself at the preliminary meeting on August 22nd, 1874, from which the school had its rise. When Mrs. Thorne returned from France, a few weeks later, she was amazed at the progress already made, and immediately gave me all the help in her power, but she never suggested that Dr. Edmunds should be consulted in any way. Miss Chaplin remained in France to complete her education, and took no part in the London movement.

The three medical men whose help and influence were absolutely vital to us at the time, and to whom the existence of the school was due, were Dr. Anstie, Dr. King Chambers, and Mr. A. T. Norton, and to them we all owe a debt of gratitude we can never express, though I have tried to record it in my book on *Medical Women*, where further details can be found.—I am, etc.,

Sophia Jex-Blake, M.D.

Mark Cross, Sussex, March 4th.

CORONERS' LAW AND DEATH CERTIFICATION BILL.

Sir,—I quite agree with Dr. Ffennell that death verification and certificates of death should be paid for, either by the relatives or the State. The bill before Parliament, if passed as it now stands, would be putting upon the underpaid practitioner another burden and responsibility without remuneration. It is a disgrace that as the law now stands medical men are compelled to give a certificate of death without remuneration, while the registrar of deaths gets a fee of 2s. 6d. for a copy of a death certificate. I for one, with others, will do all we can to quash the present bill. One of the reasons I am replying to Dr. Ffennell's letter is this—that our association has already a bill before Parliament which has passed its first reading, and which was presented by Mr. George Greenwood and supported by Sir Walter Foster (now Lord Ilkeston), Mr. John Robertson, Mr. Smeaton, Dr. Rutherford, Mr. Hart-Davies, Dr. Shipman, and Mr. Athersley Jones.—I am, etc.,

J. Brindley James,
Examiner-in-Chief, Association for the Prevention of Premature Burial.

THE VALUE OF DIPHTHERIA ANTITOXIN AS A PROPHYLACTIC AGENT.

Sir,—In my note in the Journal of March 4th, p. 494, the number 2,000 units as a prophylactic should read 500 units. In my own cases I have always found this amount efficient. It is injected into the arm with an ordinary hypodermic syringe, and is thus no trouble, even

in very young children. I find people anxious to have it done, which is good proof that it causes little or no inconvenience.

Since the serum probably acts by stimulating the formation of antibodies, a small dose may reasonably be sufficient to initiate the process.

In some cases 2,000 units would probably be an overdose, and might lead to poisoning affecting chiefly the respiratory and cardiac centres and accompanied by symptoms of profound shock. Such cases would be looked for in those subject to affections in which a nervous element largely enters, as asthma. In such conditions the propriety of giving even a small dose should be considered, until more evidence is forthcoming as to its possible effects in such cases.

It has been said that in cases receiving prophylactic injections and developing diphtheria on some future date, the injection of serum at the later period would probably have little curative effect. I know of no evidence to support this view; our knowledge of analogous conditions points only to the assumption that the attack would more likely be less severe and the amount of serum necessary relatively smaller.

It would not be a difficult matter for the authorities of a hospital to inject every member of the family and contacts in cases admitted into hospital. The relative value of the injections would be shown partly by the value of the serum as a prophylactic in the cases injected, but chiefly by the diminution in the number of cases admitted into the hospital.

Since it is known that cases left at home may harbour the most virulent infection without themselves showing any symptoms, the importance of investigating this question becomes at least as great as the care bestowed on the cases admitted into the hospital.—I am, etc.,

GEORGE HARDWICKE, M.R.C.S.Eng., L.R.C.P.Lond.

Snainton, Yorks, March 4th.

THE MODERN TREATMENT OF BONE INJURIES.

SIR,—I wish to endorse most heartily the letter of Mr. Wallis in the JOURNAL of March 4th. This treatment has been employed for many years in the United States of America, where, I believe, there are some 10,000 static machines in use.

May I add a few remarks to the excellent note of Dr. Eliot Creasy, chiefly on the manner in which the high candle-power lamp and the static wave current effect their result?

As in most injuries we have to deal with stasis and an exudation of serum, and the pressure which these exert is productive of pain, so it is to the expression or elimination of these products of inflammation to which the treatment by the two agents mentioned is directed.

The high candle-power incandescent light induces an active hyperaemia of the skin, and with the dilatation of the capillaries a better circulation is induced in the deeper structures, thus improving the circulation. Also we have generated not only at the surface, but in the deeper structures, a certain amount of heat. This is due to the resistance to the energy of the light. It is well known that whenever energy meets resistance there heat is generated. Now the skin is a poor conductor of heat, but it readily transmits light; this light in the deeper tissues meets resistance (otherwise it should be transmitted through the whole body), and it is, I think, at the various points of the absorption of rays that the light energy is transformed into heat energy.

The static wave current induces a series of successive contractions with intervals of rest. With such contractions stasis cannot long exist, and the fluid from the infiltrated area must be forcibly expelled. With the expulsion of the fluid elements of the exudate and the removal of the stasis a healthy cell activity is induced and a physiological energy replaces the pathological torpor. Apart from any electrical effect, the mechanical action—which may be termed a microscopical massage—renders the static wave current too valuable a method of treatment to be neglected. The effect is immediate, and relief from pain occurs and a sensation of lightness or freedom in the affected limb will be noted by the patient from the commencement of the treatment.—I am, etc.,

London, W., March 4th. F. HOWARD HUMPHRIS.

BACTERIOLOGY AND THERAPEUTICS.

SIR,—I have read with interest much that has appeared in the BRITISH MEDICAL JOURNAL recently. In the number for February 18th, 1911, a brief abstract is given of Dr Buckley's paper and the discussion which followed on arthritis. Such points as he raises to my mind only make confusion more marked in this controversial subject. It has been pointed out time after time that any known infection may set up any known form of joint disease. The various manifestations are merely a question of degree. The contributory causes of course are very numerous. Much time and energy have been expended in trying to isolate the germ of rheumatoid arthritis. I have for several years contended that even if success is achieved it will merely add one more to the list of known germs. After all, only a comparatively few cases will show this micro-organism. If, of course, it can be isolated, and a vaccine prepared that will successfully combat the disease, well and good. Then take peliosis rheumatica. Personally I do not regard this as pathognomonic. Dr. Poynton admits that it is merely a purpura occurring sometimes as the result of true rheumatic fever. In other words, again, almost any infection may set up purpura. If, of course, some method is discovered of differentiating the various forms, it will be valuable. I take it there is a marked difference between the purpura of measles and that of rheumatic fever or Henoch's purpura. Psoriasis is sometimes associated with arthritis; more often it is not.

As for appendicitis and mucous colitis, here again infection is to my mind the chief cause. I often marvel at the persistence with which lingering infection is ignored. Once infected always infected should be an axiom. Under favourable circumstances it dies down; under unfavourable it crops up again. If a severe superficial infection of the whole colon exists, then the operation for appendicitis cannot afford much relief. Measles, scarlet fever, diphtheria, pneumonia, or any known infection may set up mucous colitis or appendicitis, in some cases years after the original acute specific illness.—I am, etc.,

Bournemouth, March 1st. W. J. MIDELTON.

THE AVERAGE MEDICAL INCOME.

SIR,—Dr. Benjamin Moore has written a good deal to prove that the average medical income is £240 per annum. Whether it is £240 or twopence-halfpenny does not concern me at present, but the fallacy of which he is guilty seems a very big one.

He takes the total number of men on the *Register* and a hypothetical sum as their joint earnings, and divides one into the other and then allocates the resultant to "general practitioners," not to "every man on the *Register*."

To be logical, this is the income which "any man on the *Register*" ought to be pinned down or up to. The newly-fledged man who is just beginning his apprenticeship to general practice, the whole army of hospital resident and budding specialists, every whole-timer in every service, whether military, naval, municipal, Poor Law or public health; all professors, teachers, specialists, demonstrators, tutors, and consultants, and all general practitioners—to *all* these must be assigned £240 per annum, no more and no less; no intellect, genius, industry, intelligence, application, energy, or perseverance, no idleness, lethargy, drunkenness, incapacity mental or physical, must raise or lower the income—it has already been allowed for in the "average." You cannot average their incomes and then pin only one section (even the general practitioner) down to the result.

Dr. Benjamin Moore is clearly not a general practitioner, so we must presume it is "socialism" which animates him in his desire for the "betterment of those who need the treatment of general practitioners," for I conclude he imagines that they are the persons to be "bettered," although it is highly questionable if mere cheapness is the great benefit some persons imagine it to be. The greatest Socialist who ever lived—but He was an altruistic Socialist—said, "Sell that thou hast and give it to the poor"; but modern socialism seems to begin and end with taking what other people have.

This is not a sermon; it is only meant to be a *tu quoque* argument, and I lack the facile pen of Dr. Moore. Nobody

will surely object to Dr. Moore breaking eggs and making omelettes, and even giving them away, provided only that he will not rob his neighbours' henroost to get his eggs.—I am, etc.,

Northwich, March 5th. HENRY EDWARD GOUGH.

THE CURATIVE INFLUENCE OF ROENTGEN RAYS IN MALARIA.

SIR,—I was much interested in the article by Lieutenant-Colonel Bruce Skinner, M.V.O., R.A.M.C., and Lieutenant H. W. Carson, R.A.M.C., on the above subject in the BRITISH MEDICAL JOURNAL of February 25th. The results obtained by them are very remarkable. I would like, however, to point out the possibility of certain fallacies which they may have overlooked.

1. Cases of malaria admitted to hospital and put to bed in comfortable circumstances very often improve spontaneously without any treatment. They may have one or two paroxysms of fever, and then it quite suddenly disappears, and no relapse may occur for ten to twenty days, even though they are not kept in bed all that time. Such cases, however, nearly always relapse sooner or later, and parasites can usually be detected in their blood by careful search during the period of quiescence of the disease. Quinine treatment does not prevent the anaemia from rapidly improving, even where doses of 30 grains daily are administered.

2. Quinine may be given for one or two days, but may not reduce the fever immediately. If a new treatment is given on the third day and the temperature falls, it is not right to attribute the fall to the new treatment. The fall of temperature on the third day was very likely due to the quinine given on the two previous days. Quinine never fails to reduce the number of malarial parasites rapidly, if given in doses of 15 grains or more daily.

I would therefore venture to point out that some of the cases set forth by the above authors as cured by short exposures of Roentgen rays over the spleen may have been cases in which the fever subsided spontaneously; also those cases where the fever subsided after the short exposure to Roentgen rays, and where quinine was given on the previous two days, do not prove that the Roentgen rays, and not the quinine, produced the results. The authors do not state whether or not the parasites could be found in the blood after their treatment, nor do they state how long their patients were kept under observation.

In a case under my observation, after twenty minutes' exposure to Roentgen rays over the spleen, the malarial parasites increased in number in the peripheral blood, and next day a relapse occurred.—I am, etc.,

DAVID THOMSON.

Liverpool School of Tropical Medicine, Feb. 27th.

THE enormous extent of the work of a large assurance company is well shown in the valuation report of the Prudential Assurance Company for the year 1910, recently issued, where it is stated that in the Ordinary Branch the number of life policies in force at the end of the year 1910 was 903,896, assuring with bonus £99,726,566, and producing a premium income of £4,789,686 per year; 762,206 of these policies were effected under the endowment assurance tables, where the sum assured is payable in the lifetime of the policy holder. The life annuities payable are 4,379 in number, and amount to £152,322 a year. The claims of the year amounted to £3,240,957. In the Industrial Branch the number of policies was 18,820,427, and the amount assured £190,837,433. The premiums receivable in respect of these policies amounted to £148,308 a week, or £7,712,016 a year. The average duration of the policies exceeds 11¾ years, and the average age of the assured is 33¼ years. The claims of the year amounted to £2,805,069. The number of free policies granted during the year to those policy holders of five years' standing and upwards who desired to discontinue their payments was 145,187. A sum exceeding £5,500,000 is provided in respect of free policies granted in lieu of discontinued assurances, for the increase in the sums assured given to industrial policy holders, and also for the concession granted in respect of policy holders attaining the age of 75 whose policies have been in force 25 years. The assets of the company in both branches, as shown in the balance sheet after deducting the amount written off securities are £77,529,226, being an increase of £3,327,525 over those of 1909.

Medical News.

DR. URQUHART, James Murray's Royal Asylum, Perth, has been elected a Corresponding Member of the Société de Psychiatrie of Paris.

MAJOR R. J. BLACKHAM, R.A.M.C., Sanitary Officer of the First Division, Indian Army, was among the recipients of New Year honours; he received the Kaisr-i-Hind medal of the Second Class.

THE annual general meeting of the Medical Graduates' College and Polyclinic will be held at 22, Chenies Street, London, W.C., on Friday, March 31st, 1911, at 5.15 p.m. The report for 1910 is published in the March number of the *Polyclinic*.

DR. GEORGE M. ROBERTSON, Lecturer on Mental Diseases in the University of Edinburgh and Physician-Superintendent of the Royal Morningside Asylum, Edinburgh, has been elected a Corresponding Member of the Society of Psychiatry of Paris.

THE mother of Dr. A. F. Jackson, of Liverpool, who died of plague at Mukden, where he was on duty at the Mission Hospital, has presented to the Medical College of Mukden the sum of 10,000 dollars received by her from the Chinese Viceroy.

THE eighty-third annual court of the Royal Free Hospital, Gray's Inn Road, will be held at the hospital on Wednesday next at 3.30, when the annual reports and accounts will be presented. The President of the hospital, H.R.H. Princess Christian of Schleswig-Holstein, will take the chair.

WE note that the Giggleswick-in-Craven parish magazine contains a tabular statement relating to zymotic disorders, more especially periods of incubation and quarantine of contacts. The vicar suggests that the page should be cut out and hung up at home by parents. The idea should prove useful.

WEST HAM GENERAL HOSPITAL is in future to be known as the West Ham and Eastern General Hospital. Towards the recent extensions King Edward's Hospital Fund for London at its last distribution meeting made a grant of £5,000; the institution thus starts on its new career free from debt. The in-patients last year numbered 607; the total attendance of out-patients was upwards of 131,000.

THE annual debate of the Chelsea Clinical Society is to take place next Tuesday, March 14th, at the Chelsea Dispensary, commencing at 8.30 p.m. The debate (on colitis) will be opened by Drs. Hale White and Robert Hutchison, and reopened on the following Tuesday, March 21st, by Dr. J. W. Eyre and Mr. Lockhart Mummery. There will be a general discussion each evening. These meetings are open to all members of the medical profession.

THE festival dinner of the Irish Medical Schools' and Graduates' Association will take place on Thursday, March 16th, at the Hotel Cecil, when the President, Sir Charles Cameron, C.B., will take the chair. The guests of the evening will be the Duke of Abercorn, K.G.; Sir Thomas Barlow, President of the Royal College of Physicians of London; and Sir Henry Morris, President of the Royal Society of Medicine.

DR. JOHN SPENCER FERRIS, who has recently retired from practice after some forty-two years' work in Uxbridge, was the recipient on February 27th of a piece of plate and a cheque, the presentation being made to him at a gathering in the Town Hall. The piece of plate—a large silver-gilt flower bowl—bore an inscription stating that it was presented to him by his old friends and patients as a mark of their affection and esteem and in appreciation of the many services rendered by him, and was accompanied by a roll on which was engrossed a list of the donors' names.

THE Nottingham and Notts Association for the Prevention of Consumption has organized a Tuberculosis Exhibition, to be held in the Mechanics' Hall, Nottingham, which will be opened on Monday, March 13th, by His Grace the Duke of Devonshire. It will include the exhibits of the National Association for the Prevention of Consumption and the Women's National Health Association of Ireland, together with many items of local interest. The following have consented to give lectures in connexion with the exhibition during the week: Dr. Philip Boobbyer, Dr. Marcus Paterson, Dr. R. W. Philip, Dr. J. D. Slight, Dr. Jane Walker, Dr. Ralph Williams, and Professor Sims Woodhead. Further particulars can be obtained from Dr. O. Kentish Wright, Municipal Sanatorium, Bagthorpe, Nottingham.

IT is announced that the new series for 1911 of *The Crusade*, the monthly organ of the National Committee for

the Prevention of Destitution, is not only to be enlarged, but that any special articles of more than passing importance will be published in the form of a supplement of twelve to sixteen pages. The supplement for January contains a number of articles on unemployment, including one by Mr. Sidney Webb on "Unemployment Insurance." One of Mr. Webb's chief points is that insurance against either sickness or unemployment is in no way preventive, though he admits there would be some advantages "if we could somehow get provided for every person who was so ill as to be unable to go to work both medical treatment and sick pay, and, though this would in no way prevent the occurrence of disease, it would be an enormous boon," and he thinks our aim should be to obtain "such provision as will make the benefits as genuinely curative and as nearly universal as possible." The supplement for February is devoted to the problem of the feeble-minded. A useful summary is given of the conclusions of the Royal Commission on the Feeble-minded, and a series of articles follow with a select bibliography on the subject. In an editorial note the scheme of Poor Law reform advocated by the County Councils Association is accepted only as a basis for compromise, because it contains three things for which the Minority has contended—namely: (1) The transfer of children in institutions to the Education Authority; (2) the unified medical service under the county M.O.H.; and (3) the transfer of the unemployed to a national authority. On the other hand, objection is taken to the scheme because it retains a destitution authority and offers no guarantees for the disappearance of the mixed workhouse. In an article on the proposed new Outdoor Relief Order there is some strong criticism of the proposal of the Departmental Committee that the Prohibitory Order should be more strictly enforced and made universal; the article concludes that if Mr. Burns adopts the proposal he may be able to congratulate himself and his Department on a striking reduction of pauperism, but that "the amount of that reduction will be a more or less exact measure of the increase of suffering and destitution caused by the new Order."

THE twenty-first annual report of the New York State Commission in Lunacy for 1908–09 has, we learn from the *Medical Record*, recently been issued. It states that on September 30th, 1909, the number of registered lunatics in the State of New York in institutions under the supervision of the State Commission in Lunacy was 31,541, of which number 15,107 were males and 16,433 were females. The number of patients to each 100,000 of the population of the State in 1909 was 348.9 among males, 375.5 among females, and 362.3 in the total population, or a ratio of 1 insane male to each 287 males, 1 insane female to each 266 females, and 1 insane of either sex to each 276 of the general population. Of the psychoses, dementia praecox predominated among the total first admissions, general paresis was second, senile insanity was third, and alcoholic psychoses were fourth. The largest absolute number of first admissions was between the ages of 25 and 30, with numbers nearly as large in each of the five-year periods from 20 to 40 years of age. As to the nativity of the patients in 1909, 44.7 per cent. of the male and 48.3 per cent. of the female first admissions were of foreign birth. The most marked difference between the distribution among the several forms of mental disorder of first admissions of native birth and that of first admissions of foreign birth was the excessively high proportion among Irish first admissions of alcoholic and senile psychoses, the great preponderance of senile insanity among the Germans, and the preponderance of dementia praecox among the Russians, Italians, and Austrians. Statistical studies of the etiological factors assigned in the first admissions during the year ending September 30th, 1909, have been considered only on two issues—that of alcohol and that of heredity. Alcoholic habits were recorded in 45.7 per cent. of the male and in 15.7 per cent. of the female first admissions, or in 32 per cent. of the total first admissions. The influence of heredity in the causation of insanity was traced in 61 per cent. of the total first admissions, but of family history it was found impossible to obtain trustworthy accounts, positive or negative, in 23 per cent. of the total number of cases reviewed. One fourth of the deaths occurring during the year 1909 were due to diseases of the nervous system, the most prominent in this group being general paralysis of the insane. The next most prominent cause of death was tuberculosis, and over 55 per cent. of the total deaths due to tuberculosis were among cases of dementia praecox, and over two-thirds of those due to cerebral haemorrhage and apoplexy were cases of psychosis with brain or nervous diseases, cases of dementia praecox, or of old age.

Medico-Legal.

HAS THE ACCOUCHEUR THE RIGHT TO CHOOSE THE NURSE?

A LEGAL point of some professional interest was decided recently (*La Semaine médicale*, 1911, No. 8) by a French court in a manner which seems not only reasonable but is in strict accordance with the public interest. A lady sued her medical attendant for £60 damages on the ground that he had failed to carry out his engagement to attend her in her confinement, thereby causing her much grief and trouble. On the part of the doctor it was shown that he had given her ample notice and held himself at her disposal should she require his services before she had been able to make other arrangements. The reason which led the doctor to decline further attendance was that the patient and her family insisted upon introducing a nurse of whose antecedents and recent engagements the doctor knew nothing, while he was prepared with a nurse whose aseptic status he was able to guarantee. The court dismissed the claim, while the doctor got his fees, with the addition of a franc claimed as damages for the slur cast by the action upon his professional reputation, and the whole of his costs. In view of the universally admitted importance of aseptic purity in all those who have to take part in surgical proceedings, we think no other course was open to the doctor; and although it is not likely that many patients would be so wrong-headed as to bring an action under such circumstances, it is satisfactory to find the French court giving such an unqualified expression of opinion in favour of the medical contention.

WORKMEN'S COMPENSATION ACT.

Choroiditis.

IN a case at Edinburgh (December 6th, 1910) it appeared that the claimant had been engaged in "chipping" a boiler on February 10th, 1910, when a splinter from the incrustation struck him on the right eye, causing a scale to grow over the pupil. He was totally incapacitated from work, and the respondents paid him compensation down to June 4th, when they stopped payment on the ground that the claimant had recovered. Counter-actions were then brought, one at the instance of the claimant to have a compensation memorandum recorded, and the other by the respondents to have the compensation ended or diminished. On November 8th, 1910, the case was heard by Sheriff Guy and Dr. George Mackay as medical assessor. This was the first occasion in which a medical assessor has been appointed in such a case in the East of Scotland. The Sheriff held (1) that at the time of the accident the claimant suffered to a certain extent from central choroiditis of the left eye, which was unconnected with the accident; and (2) that as a result of the accidental injury to the claimant's right eye, and having regard to the condition of his left eye, he was partially incapacitated for work when his compensation was stopped on June 4th, and he continued to be partially incapacitated. In coming to this conclusion the Sheriff disregarded any further deterioration in the condition of the left eye since the date of the accident. He therefore ordered the registration of the claimant's memorandum for a reduced amount of compensation, expenses being awarded to neithe party.

Failure of an Operation.

It is material to notice that where an operation fails or partially fails the workman may be awarded compensation as for partial injury. In a case at Hanley (October 6th) it appears that an accident happened in February, 1909, when the respondent sustained an injury which necessitated an operation, and an agreement was come to by which he received 17s. 10d. per week. He subsequently did light work—sawing wood—but left this because of fluid on the knee. The question in dispute was whether an operation which followed the accident was completely successful, and whether respondent was still incapacitated for work by reason of the accident. The case had been adjourned from the last court in order that the matter might go before a medical referee. The judge read a report from the medical referee (Dr. Alcock), which stated that respondent had undergone an operation for hernia in the right groin. The deep tissues of the abdominal wall underlying the linear operation scar had failed to unite quite firmly—probably because he tore the stitches by jumping up in bed—and consequently a large hernial gap remained. The left knee was now quite well. Its swelling was, in his opinion, quite independent of the hernia or operation in 1909. The condition of the abdominal wall rendered Shaw unfit for employment involving heavy lifting. He would be best suited for a light job, such as sweeping. The judge stated that the report only left the question of capacity for light work, and that was admitted in this case. In considering the question as to whether compensation ought to be reduced, His Honour asked who was going to take that man in his present state, and with all the liability to pay him compensation if something happened to incapacitate him. His experience was that no one would take the man under such circumstances. In that case it would be impossible, or next to impossible, to obtain light work unless he got it from the Shelton Company. At present the order must be that the application to alter the compensation be refused. If the company were willing to give the respondent light work the difference in the amount of compensation may be arranged between the parties.

Exercise of an Injured Limb.

In the case of Vincent *v.* Hicks (*Illustrated Western Weekly News*, January 14th) it appeared that a milkman sustained an injury to his arm on December 1st, 1908. On July 4th, 1910, an award was made of 10s. 9d. a week, to commence from April 9th, 1910, but respondent had been paid from the date of the accident to that time. The employer now sought to terminate the award on the grounds that the continuance of the disablement was entirely due to the respondent having persistently neglected to use and exercise his arm or to take any other measures for the purpose of restoring his wage-earning capacity. The respondent contended that the last allegation was untrue; that he was still suffering from the effect of the accident; and that through his injuries he was unable to resume his employment. He had been medically examined and told that nothing could be done for him. He had been able to do light work at 1s. 3d. a day, but he had frequently to cease work on account of the pain in his arm. He contended that the circumstances had not materially altered since the award was made. A number of medical witnesses having been called, His Honour, in giving judgement, said that his first impression of the case was confirmed. It was not an alteration in circumstances, but really what amounted to a rehearing of the case. The evidence adduced was no more than evidence given at the original hearing, that the respondent might by constant exercise have improved the condition of his arm. Now the allegation in the application was that he persistently refused to use and exercise the arm properly, but there was no evidence given of any persistency of his doing anything at all. The evidence was that he had obtained work whenever he could, but it was also clear that when the pain was greater than he chose to bear he gave up using the arm. It was not everybody that could persist in giving themselves pain in order to arrive at what might not even be a definite end. It was more than could be expected. In many instances where people were better off, the improvement was brought about by the doctors doing it for the patient themselves. When the patient was left to himself he neglected the matter and pretended to the doctor that he had followed his instructions. His Honour came to the conclusion that the application must be dismissed.

A Paralytic Stroke.

In the case heard by Judge Bradbury at Wigan, Williams *v.* Barbould Collieries (*Wigan Examiner*, January 14th), it is interesting to find that where a man was in such a condition that he might have suffered from a paralytic stroke the county court judge refused to award compensation. It appeared that the applicant on July 14th and 15th was working in a hayfield. About four o'clock on July 15th, while using his hayfork, his story was that he got caught and fell over, bruising himself very badly and being unable to get up. It was stated that the applicant was ruptured and badly bruised.

Dr. Rose of Harwich stated he was called to see applicant on Monday, July 18th, and found him suffering from paralysis of the left arm and left leg and also from contusions of the left ribs and left arm. The applicant said he had spat some blood, but witness did not see any. He had the typical symptoms of a paralytic stroke.

Questioned by His Honour, the witness said the applicant had certainly not had sunstroke. The applicant was prematurely old, and his arteries were inelastic, and any extra pressure would be calculated to cause arterial rupture, which in its turn would cause paralysis.

His Honour: Can you say what would be the initiating cause?

Witness.—Work itself does it sometimes, such as bending. With arteries, such as in the present case, it was sometimes caused by any sudden effort; stooping would do it, or anything that increased blood pressure—sometimes even excitement, sudden joy, or sudden sorrow. The fact that the applicant was giddy showed that he had increased blood pressure before he fell.

Questioned by counsel for the employer, the witness said that the condition of the applicant's arteries was such that the stroke might have occurred at any time and at any place, given an exciting cause.

His Honour said that he had to decide whether substantially—because that was the real thing in these cases, and they must not look at the matter too much from one side or the other—looking all round, whether as a matter of substance it could be said that it was due to accident arising out of work. Working in a hayfield did not produce a paralytic stroke. It was common knowledge that when a man's arteries were in a condition such as stated this consequence might arise. He knew of his personal knowledge cases where this sort of thing happened without any work at all. Mere stooping down, or even any emotion of any kind, would be sufficient to cause it. This stroke might have happened at any time. The court must be satisfied that this accident arose out of the applicant's work, and it was not made out in this case. There must be an award for the respondent company.

Blood Poisoning.

In Reid *v.* Wilson (*Glasgow Herald*, January 24th) the applicant, a widow, sued for £198 5s., three years' wages, as compensation to herself and two children in respect of the death of her husband, who contracted blood poisoning, the germs of the disease gaining admission to his system through a wound under the nail of his right thumb from garden soil with which he came into contact in the course of his employment. The claim was resisted by the insurance company with which the employer was insured, on the ground that the cause of death was not an injury by accident arising out of and in the course of the employment. Sheriff Baillie held that there was no proof how the dirt under the fingernail was obtained, but that it was most probable that it was gained during his employment. He found that the deceased died from a personal injury by accident, but that the accident did not arise out of or in the course of his employment. He therefore refused compensation, and found the pursuer liable to the defender for expenses.

Neurasthenia.

In the case of Lowden *v.* Dawson, heard at Sunderland on January 18th (*Newcastle Daily Chronicle*, January 18th), it appeared that a youth named Lowden had been injured in an accident in May, 1909. Since then the employers had paid compensation, but they now applied that it might cease. Four doctors stated that the lad was fit to resume work. The sympathy the lad received at home accounted for part of his symptoms. Lowden stated in the witness-box that he was afflicted with injuries to the spine caused by the accident, pains in the stomach, lumps in the back, vomiting after every meal except breakfast, and fits almost daily. He had to lie in bed on his face, with his head turned to avoid suffocation, though he said it did not matter much if he were suffocated. He had not walked more than half a mile at one time since the accident, and could not do so. He spent most of his time sitting in a shop. Four doctors, called for respondent, said he was suffering from neurasthenia. They did not, however, see any lumps on his back, and thought he would be better away from the sympathy of his friends. Counsel for the employer said his client was willing to renew an offer of light work he had previously made. His Honour: Have you any doubt what the result would be? Do you think it would last seven minutes? It would be self-contradiction if he worked an hour. The boy is perfectly well aware of that. He won't stoop; he refuses to stoop. It was mentioned that the respondent had only worked one day for applicant when the accident occurred. Eventually a lump sum of £37 10s., without costs, was awarded the respondent as a settlement.

According to a report in the *Times* of January 15th a case was heard at Maidstone County Court before Judge Emden in which a carman applied for an award under the Workmen's Compensation Act, having, it was asserted, suffered from neurasthenia as the result of an accident which he met with in May last. A doctor who examined the applicant stated that he could discover no signs of shock or anything likely to cause neurasthenia. His Honour, in dismissing the action, said it ought not to have been brought. The applicant was alleged to have suffered from neurasthenia, a complaint which was very little heard of until the Workmen's Compensation Act came into operation, but which appeared to be now rapidly increasing. The number of workmen suffering from neurasthenia was extraordinary, and he felt sure that none of these workmen knew what the malady was until the Act was passed. The worst of these cases was that they destroyed the nice feeling between master and servant which existed before the passing of this Act. Such cases also showed an absence of self-respect and manly independence on the part of the workman. If the Act in question had not been passed the court would not have been troubled with such a claim as that.

MIDWIFERY FEES.

J. B. W. asks whether a medical practitioner is legally entitled to charge for a confinement, where he had been engaged to attend, but was not summoned at the time.

*** According to the law of England a contract once properly entered into, if of a lawful character, cannot be voided without the consent of both parties. Where there has been a breach on one side, the other party can recover damages for the same, but the measure of the said damages will be the loss entailed on the other party in consequence of the breach. We do not know of any specific cases that have been reported, but speaking generally, it is we believe not "the habit of the profession," to use our correspondent's term, to sue for fees in such cases, except under very special circumstances.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

CIRCULARS ON STARTING PRACTICE.

ARCTURUS.—Any one in the position of our correspondent should be sufficiently well known to require no introduction, and the fact that he is starting an independent practice will be quickly made known through his medical friends without

sending round any circular; but he may write to his medical and lay friends and tell them of the change, and there can be no objection to his stating that in future his practice will be independent. With regard to the proposed change of address, there would be nothing unusual in placing a small notice under his doorplate, or, as is sometimes done, at the side of his railings, as soon as he pleases, and it can be left there for as long as it may seem useful. Probably the new tenant of the house will desire its removal, and it will surely have done its work after a few months. There ought to be no desire to take advantage of changes of this sort, and of the legitimate announcements which may be made in connexion with them for the purposes of advertisement.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Examinations.

MR. EDWARD TREACHER COLLINS has been appointed Examiner for the Diploma in Ophthalmology for 1911 and 1912.

The Board of Faculty of Medicine has given notice that, in accordance with the provisions of the Statute approved by Convocation on November 15th, 1910, it has added to its regulations a clause providing that no candidate, unless already a registered medical practitioner, shall be admitted to the examination in Medicine, Surgery, and Midwifery, until a period of at least twenty-two months has elapsed from the date of his passing the first examination for those degrees.

Degrees.

Mr. R. C. Wingfield has been approved for the B.M., B.Ch. degree.

UNIVERSITY OF DUBLIN.

THE following was among the degrees at the meeting of the Senate on February 28th:

M.D.—G. C. P. Smyly.

CONJOINT BOARD IN IRELAND.

THE following candidate has been approved at the examinations indicated:

D.P.H. (BOTH PARTS).—R. H. Bremridge.

The Services.

SCOTTISH COMMAND LECTURES.

THE fourth of the series of lectures on the technical training of R.A.M.C. officers in field duties was given in the Carlton Hotel, Edinburgh, on March 2nd, by Major R. J. Ross, General Staff Officer of Scottish Coast Defences. The subject was "Some Principles of Strategy and their Bearing on Medical Service in the Field." Major Ross described the main principles of strategical and tactical operations, and pointed out how medical arrangements must be made to conform to the principles laid down. He illustrated these principles by reference to the campaign of Novara between the Austrians and Sardinians, in which six divisions were engaged on each side; as the British expeditionary force would be composed of six divisions, the illustration was an apt one. He showed the lines of advance, the position of clearing hospitals and hospitals on the lines of communication, and the arrangements for speedy evacuation, which should be the main strategy of the medical service.

On the afternoon of the same day Captain A. M. McLaughlin, R.A.M.C., delivered the fourth of the series of medical lectures in the library of the Military Hospital, the subject being "Sanitary Organization in War." After the lecturer had described the organization of the British Army, Colonel Heuston, R.A.M.C., related some valuable experiences in China and South Africa, and a most interesting discussion ensued. These lectures complete the series of four in each course organized for the Scottish Command winter training.

ROYAL COLLEGE OF SURGEONS IN IRELAND OFFICERS' TRAINING CORPS.

THE first annual dinner of the Officers' Training Corps connected with the College of Surgeons was held last week in Dublin, and proved a great success. This corps has been in existence now for about a year, and has been joined by a large body of students. Sir John Lentaigne bore testimony to the great and beneficial change which the formation of the corps had produced in the lives of medical students, and other speakers referred to the important asset which the country would shortly possess in the existence of bodies of medical men trained in military methods.

Obituary.

CHRISTOPHER BENSON, L.R.C.P., M.R.C.S.,

SHIPLEY.

WITH much regret we have to record the death at the comparatively early age of 51 of Mr. Christopher Benson, L.R.C.P.Lond., M.R.C.S Eng., which took place at Shipley on February 17th, where he had been for many years in practice. Mr. Benson began the study of medicine as a student of the Leeds school at about the age of 25, later in life of course than is usual, and from the outset of his curriculum he brought to bear on his work that steady and uniform diligence which he has always manifested through his life. He was a brilliant student, and early in his career he was stricken with a serious malady which at one time threatened his life. This illness and its consequences unquestionably curbed his efforts, and though those who were his patients doubtless derived the benefit of having such a man to attend them, his early devotion to what proved, and was doubtless intended by him to be, a quiet and unambitious sphere of life, stood in the way of his taking that position in his profession to which his abilities would seem to have entitled him. Apart from his professional abilities Benson was a man of general culture and a good linguist, being well versed in French and German literature. He will long be remembered by all who knew him and especially by his teachers and fellow students, as a man of a charming and striking personality with original views on many subjects and with a very keen sense of humour.

Public Health AND POOR LAW MEDICAL SERVICES.

CERTIFICATION OF PAUPER LUNATICS FOR ASYLUM.

P. B. asks whether a medical man attending a working-class patient who is certifiable as a pauper lunatic entitled to fill in the necessary form for his removal.

*** Any registered medical practitioner in actual practice is entitled to certify a patient for an asylum as a pauper lunatic, but only if called upon to do so by the justice acting in the case who, by Clause 16 of the Lunacy Act, 1890, has to call to his assistance a medical practitioner, who may or may not be the previous medical attendant of the patient as the justice may think fit. The only fee payable in connexion with such cases is that which the magistrate is empowered to order the guardians to pay for certifying the case on the statutory form.

THE first Congress of French Medical Journalists will be held in Paris on March 23rd. A very large number of well-known men have intimated their intention of being present. Amongst others may be mentioned Professor Landouzy, Dean of the Faculty of Medicine, who will take the chair; MM. Lucas-Championnière, Hallopeau, Ricard, Valude; Professors Poncet, Grasset, Régis, Moure. A number of eminent medical journalists from Latin countries will likewise attend the congress. Among these are MM. Crocq, Coppez et Delsaux, of Brussels; Charles, of Liège; and Merveille, of Chênée; Senators Maragliano, of Genoa, and Mangiagalli, of Milan; Professors Rummo, of Naples; Cattaneo, of Parma; Pires, of Lima; Antonio de Azevedo, of Lisbon; Ricardo Horno Alcorta, of Saragossa; Barbera Marti, of Valencia; Jorge Leyro Diaz, of Buenos Aires; Aristotle Konzis, of Athens. Esperanto will be represented by M. Thalwitzer, of Dresden. The following questions are in the programme proposed for discussion: (1) The right of reprinting medical articles (to be introduced with a report by M. Vitoux). (2) The connexion of the medical press with congresses and other manifestations concerning the art and practice of medicine (to be introduced with a report by M. Ausset). (3) The organization of a bureau for immediate relief (to be introduced with a report by M. Duchenne). (4) The usurpation of the title of doctor (to be introduced with a report by M. Dieupart). The general secretary of the congress is Dr. Cabanès, 9, rue de Poissy, Paris. A bureau of information will be open at the Faculty on Wednesday, March 22nd, from two to six o'clock.

Letters, Notes, and Answers.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DEVONIAN asks whether there is any instance of a woman being elected on the committees—visiting, finance, or other—of hospitals.

PERPLEXED asks if in the case of autogenous vaccination for *B. coli* in the pelvis of the kidney an increase in the bladder symptoms, accompanied by pains in the right thigh and lumbar region, may be looked upon as unfavourable.

W. J. L. asks for advice in the treatment of a girl of 15 years, who has suffered from epileptic fits for a number of years. The bromides, borax, and arsenic have been given for long periods, besides dieting carefully. So far no improvement is manifest, even since menstruation (which is regular) appeared.

ANSWERS.

J. W. B. writes, in answer to "North," to suggest the wearing of thick bedsocks—the only treatment he found efficacious in his own case.

DRS. MOONEY AND FERGUSON (Preston) write, in reply to "Pedestrian," to recommend him to try a 5 or 10 per cent. solution of acidum chromicum (chromic anhydride) to be painted on after washing the feet first.

IN reply to an inquiry from a correspondent, Dr. N. L. Usher Somers informs us that particulars with reference to the inhaler for the administration of radio-active oxygen, referred to in his letter published in the BRITISH MEDICAL JOURNAL of February 25th, 1911, p. 459, can be obtained from Messrs. Southall, chemists, Birmingham.

DR. H. J. THORP (Ipswich) writes in reply to the inquiry from "Aden," published on February 4th, for the treatment of warts: Thorough cleanliness; saturated solution of salicylic acid in alcohol repeatedly applied; and continued purgation of sulphate of magnesia in infus. rosae acid., t.d.s., or a carminative; enough mag. sulph. to produce two or three evacuations daily.

DENTAL PLATE OR BRIDGE?

MR. J. BATTERSBY, L.D.S.Eng. (Nottingham) writes: In reply to "Anxious," the main advantages of a bridge in the case referred to are: (1) Fixation in the mouth, enabling it to be cleaned like the natural teeth; this is about the most important point in favour. (2) No bands will be present to cause decay in sound teeth. (3) No possibility of thermal changes being noticed when anything very hot or cold is taken into the mouth. Against these points must be put: (1) The mechanical principle that roots can only withstand a certain stress. In the case given the roots of the left central incisor, first left premolar, and first right molar will have to stand the stress normally withstood by nine separate roots. The three teeth mentioned will have to be prepared for crowning to form abutments between which the dummy teeth will be suspended—four between the molar and incisor on the right side, and two between the premolar on the left of the central. The stress on the six suspended teeth and that on the three crowns will be much too great, and in a few years' time one or more of the roots will be loosened. It is a safe rule not to suspend more than two dummy teeth between two abutments—a condition which would be ideally met by the left side of the case in question. This point of strain is the crux of the whole matter. (2) Difficulty of satisfactory repair. The advantages of a plate (metal) are: (1) *No* strain or stress on the teeth. (2) Ease of repair. Disadvantages of a plate: (1) The plate is not a fixture, and has to be removed from the mouth to be cleansed; but this enables thorough cleanliness—a difficult point in a bridge. (2) The plate will require two bands to keep it in position, one round the molar the other round the first left premolar—teeth placed in an ideal position, by the way—and, if not kept clean, these two teeth will soon begin to show signs of caries. If the bands be kept perfectly clean by rubbing the inside on a taut piece of silk night and morning, and special attention be devoted to the molar and premolars by brushing after each meal, I venture to say that caries will not attack these two teeth any more quickly than the other teeth. The bands must of course not be fixed too close to the gum. (3) Thermal changes on taking anything very hot or cold into the mouth; not of much consequence. A metal plate (gold or dental alloy) will be found quite satisfactory, and its presence in the mouth will soon be unnoticed. It may be of the ordinary or "skeleton" pattern. From the foregoing points it will be gathered that I am in favour of a plate in the case referred to. There are one or two other points—for example, time, expense, etc.—which, apart from mechanical principles, sometimes decide a case; but these have not been considered.

TREATMENT OF CORYZA.

DR. S. B. WALSH (Merthyr Tydfil) writes: With reference to the treatment of this disagreeable affection, my personal experience may be of interest, and possibly of advantage, to your correspondents. I suffered for many years from an intractable nasal catarrh. I tried pretty well everything in the way of insufflations from boric acid to tannin. I had the mucous membrane cauterized, the antrum explored, and the turbinates removed, without appreciable benefit. I was contemplating vaccine treatment as a *spes ultima* when I hit on the following simple line of action: I had noticed that if I went into the air after washing the head the chilly feeling produced thereby on the scalp was invariably followed by an aggravation of the nasal symptoms. I attributed this to a congestion of the nasal and post-nasal mucous membranes produced by the contraction of the scalp arterioles. I reasoned that if chilling and contraction of the scalp vessels produced congestion of the nasal and sinosal mucous membranes, warmth and dilatation should produce the reverse. On this assumption I started treating my nasal trouble by counter-irritation of the scalp. After some experimentation I found that friction with a coarse flesh-glove was the most satisfactory method; and I am not exaggerating in the slightest when I say that from the day I first tried it—that is, during six years—nasal catarrh with all its attendant miseries has been to me a memory of the past. If an attack threatens, as it does occasionally, a thorough friction at night, with possibly another the following morning and night, gives prompt relief. Now presuming that coryza is microbic in origin, as it almost certainly is, this simple method of treatment would seem altogether too unscientific to account for such a wily foe as the *Micrococcus catarrhalis*. But, on the other hand, like most micro-organisms, it gains easiest entrance through injured or diseased tissue. If, then, the nasal mucous membrane is turgid and congested, the omnipresent microbe grows, multiplies, and produces its characteristic symptoms. But if the turgidity and congestion can be replaced by the normal, the microbe dies of inanition: at least so I explain it. And the explanation pleases me, since the results are so satisfactory. I do not wish to say that this will relieve every case of coryza, or to dogmatize in any way on the point. Every man is a law unto himself. And the most I am prepared to affirm is that it cured me, and that it may be worth a trial in your correspondent's cases. I might add that, as might reasonably be expected, the treatment has a most beneficial effect on the growth of hair on the head. You have thus the chance of killing two annoying birds with the one stone, all at a trifling cost.

LETTERS, NOTES, ETC.

A LABORATORY VISITOR.

PROFESSOR G. H. F. NUTTALL of Cambridge sends us the following description of a man who it is believed has been going round the British laboratories for some time:

"Short, stout, dyspnoeic man, about 5 ft. 4 in. in height; aged about 55 years; Jewish-looking; complexion tawny; full head of greyish-white hair, which is slightly curly; similar moustache. Nose thick, and bent slightly to one side. Manners very insinuating; well dressed; American accent. Poses as a medical man, and speaks as if he knew prominent colleagues intimately."

Professor Nuttall suggests that his colleagues should be on their guard.

TREATMENT OF SCARLET FEVER.

A MEDICAL OFFICER OF HEALTH writes: The medical profession has had more than one opportunity of hearing from Dr. Milne an exposition of the method in which he deals with scarlet fever occurring in children and young persons in Dr. Barnardo's homes (BRITISH MEDICAL JOURNAL, 1910, vol. ii, p. 594). The results which he states that he has obtained are so surprising and so contradictory of all previous ideas of what can be done in that way, that it is of the first importance that they should be either corroborated or refuted. The facilities for practically testing them on a sufficiently large scale to avoid possibility of fallacy are so much greater in large isolation hospitals like those of the Metropolitan Asylums Board and of our great provincial cities than elsewhere, that one naturally looks to these establishments for the crucial proof as to the value of Dr. Milne's method, and I, in common probably with many others who appreciate the great importance of this subject, have been hoping from week to week to see some statement about it. There ought to be by this time such a mass of evidence accumulated on this matter as should leave no doubt as to the truth.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive *poste Restante* letters addressed either in initials or numbers.